REPORT RESUMES

ED 013 849 08 UD 004 009

TRAITS OF SCHOOL ACHIEVERS FROM A DEPRIVED BACKGROUND.

BY- DAVIDSON, HELEN H. GREENBERG, JUDITH W.
CITY UNIV. OF NEW YORK, CITY COLL.

REPORT NUMBER BR-5-1035 PUB DATE MAY 67
CONTRACT OEC-5-10-132
EDRS PRICE MF-$1.25 HC-$12.32 308P.

DESCRIPTORS- *DISADVANTAGED YOUTH, *NEGROES, *ACADEMIC ACHIEVEMENT, *HIGH ACHIEVERS, RESEARCH METHODOLOGY, LOW ACHIEVERS, DISADVANTAGED ENVIRONMENT, TABLES (DATA), GRADE 5, SELF EVALUATION, TEACHER EVALUATION, TESTS, FAMILY BACKGROUND, PHYSICAL CHARACTERISTICS, MOTIVATION, SEX DIFFERENCES, COGNITIVE ABILITY, PERSONALITY, COMPARATIVE ANALYSIS, WECHSLER INTELLIGENCE SCALE FOR CHILDREN, SELF APPRAISAL SCALE, OBJECT SORTING

A STUDY WAS CONDUCTED TO DETERMINE THE COGNITIVE, AFFECTIVE, MOTIVATIONAL, AND PHYSICAL CHARACTERISTICS OF HIGH-ACHIEVING STUDENTS FROM A DEPRIVED ENVIRONMENT. THE RELATIONSHIP OF THE STUDENT'S SEX TO HIS ACHIEVEMENT STATUS WAS ALSO ASSESSED. THE SUBJECTS, 160 10-YEAR-OLD FIFTH-GRADE NEGRO CHILDREN, WERE DIVIDED INTO LOW-ACHIEVING AND HIGH-ACHIEVING GROUPS. RESEARCH PERSONNEL ADMINISTERED TO ALL CHILDREN BOTH INDIVIDUAL AND GROUP PSYCHOLOGICAL TESTS, SUCH AS AN OBJECT SORTING TASK AND THE WECHSLER INTELLIGENCE SCALE FOR CHILDREN, AND SEVERAL PAPER AND PENCIL GROUP DEVICES SUCH AS THE SELF-APPRAISAL SCALE. IN ADDITION, EACH CHILD WAS INTERVIEWED BY A PSYCHOLOGIST AND APPRAISED BY HIS CLASSROOM TEACHER. SIGNIFICANTLY, THE SELF- AND TEACHER-APPRAISALS CORRELATED MOST HIGHLY WITH THE STUDENT'S ACHIEVEMENT STATUS. THE HIGH-ACHIEVERS WERE MORE STABLE, SELF-REALIZING, AND CAUTIOUS IN THEIR THINKING. ALSO, THEY WERE MORE SUCCESSFUL THAN THE LOW-ACHIEVERS AT THOSE TASKS REQUIRING VERBAL INFORMATION, CONCEPTUAL ABILITIES, AND COGNITIVE SKILLS. THUS THE HIGH-ACHIEVERS SURPASSED THE LOW-ACHIEVERS IN THOSE ABILITIES AND SKILLS TRADITIONALLY EMPHASIZED IN SCHOOL. THEY DID NOT SURPASS THEM, HOWEVER, IN LINGUISTIC COMPLEXITY, CREATIVITY, AND CURIOSITY. ORGANIZATIONAL SKILLS, FORMAL LANGUAGE, AND EMOTIONAL ANXIETY WERE SOME OF THE PROBLEM AREAS COMMON TO BOTH GROUPS. THE SCHOOL MUST BE CAREFUL NOT TO IGNORE THESE STRENGTHS AND WEAKNESSES, AND SHOULD DEVELOP COGNITIVE AND EGO COMPETENCE IN BOTH LOW- AND HIGH-ACHIEVERS. RELEVANT DATA IS PRESENTED IN THE APPENDIXES TO THIS EXTENSIVE REPORT. AVAILABLE AS PART OF THE RESEARCH STUDIES SERIES FROM ASSOCIATED EDUCATIONAL SERVICES CORP., 630 FIFTH AVE., NEW YORK, N.Y. 10020.

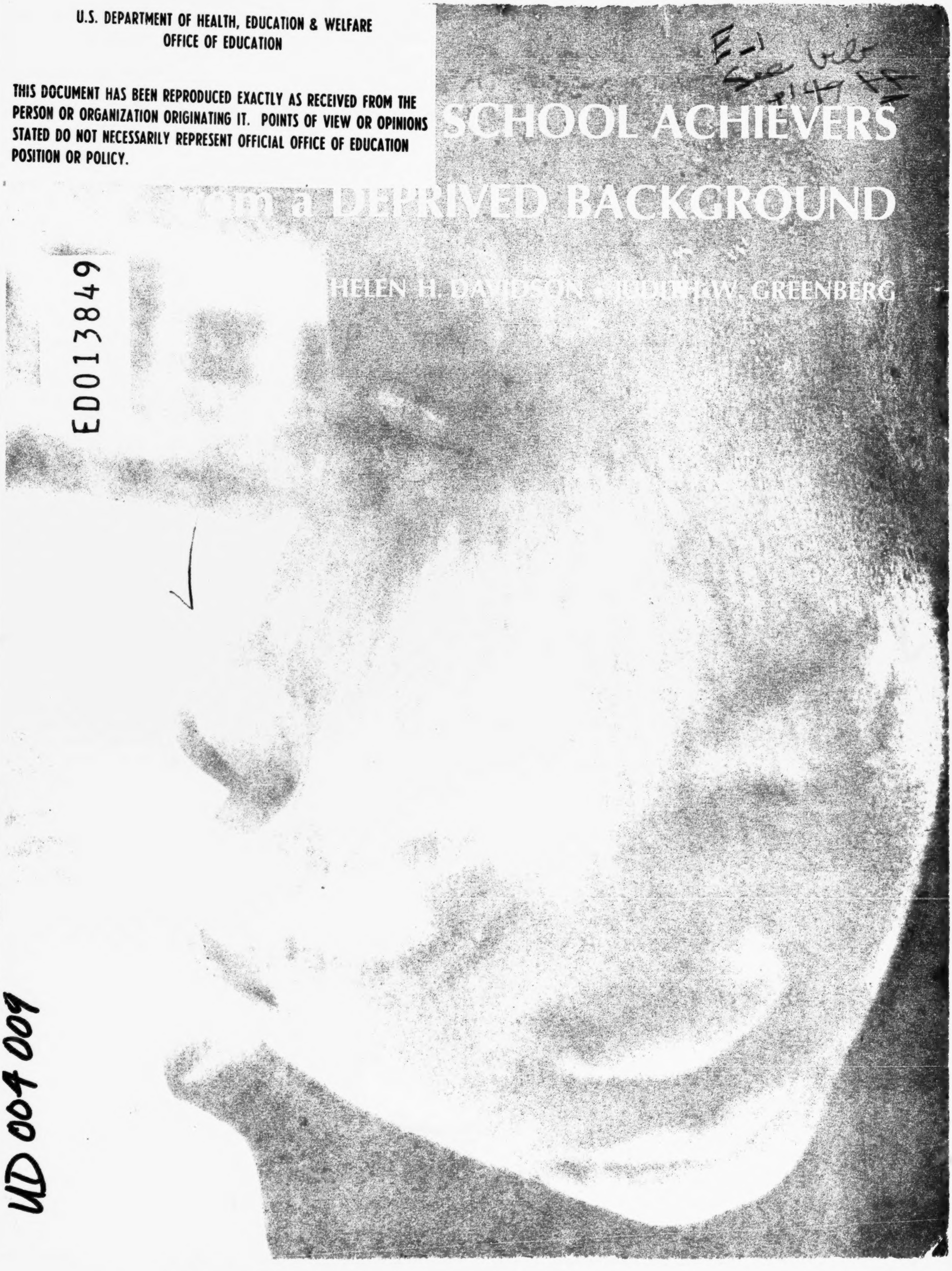
U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

E-1
See [illegible] #147 ff

SCHOOL ACHIEVERS
om a DEPRIVED BACKGROUND

HELEN H. DAVIDSON • JUDITH W. GREENBERG



ED013849

UD 004 009

04009

Traits of SCHOOL ACHIEVERS FROM A DEPRIVED BACKGROUND

Helen H. Davidson and Judith W. Greenberg

PS - 18

BR-5-1035

May 1967 Project No. 2805 Contract No. OE-5-10-132

The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

The City College of the City University of New York
New York, New York

PROJECT STAFF

Examining Psychologists

Harwood Fisher
Louise W. Fox
Jules Older
Jean G. Zion

Clinical Psychologists

Vera Henriquez
Joseph Kleinman

Research Assistant

Marietta S. Shore

Administrative Assistant

Alice Shapiro

Social Worker

Atkins Preston

Pediatrician

Aaron G. Meislin

Assistant to Pediatrician

Sandra Epps

Statistical Consultant

Jacob Cohen

ACKNOWLEDGMENTS

Our indebtedness extends to many people:

To the staff who served ably in their specialized fields and whose names are listed on the previous page;

To the children and their parents who cooperated beyond what would normally be expected in a study which did not offer any immediate personal benefits;

To the principals, guidance counselors, and teachers in the ten schools who must remain unnamed but who were most helpful and gave willingly of their time to make records and testing facilities available to us and to consult about children;

To the administrative personnel at the New York City Board of Education who gave us permission to carry out the study in the Harlem schools and, particularly, to Dr. Charles M. Shapp, Assistant Superintendent, who encouraged us to undertake this investigation;

Finally, to our colleagues at the City College who were always interested and cooperative, and especially to Dean Harold H. Abelson and Professor Betram Epstein, who gave their support at the early stages of the study, and to Dean Doyle M. Bortner and Professor David J. Fox who facilitated the completion of the project.

We wish to mention particularly Mrs. Emma Goldfrank and Dr. Vera Henriquez who spent long hours studying the children's protocols in order to prepare the case studies.

H. H. D.
J. W. G.

TABLE OF CONTENTS

CHAPTER

1 ISSUES IN RESEARCH ON ACHIEVEMENT OF LOWER-CLASS CHILDREN 1

Correlates of Achievement in Middle-Class Children 1

Intellective and Personality Variables
Physical Traits
Sex Differences

Race and Class Differences in Achievement . 4

Achievement Functioning - A New Look . . . 6

Experience, Structure and Intelligence
Achievement Behavior and Motivation

Experimental Studies of Learning Abilities . 7

The Genesis of Low Achievement in Lower-Class Children. 9

Hypotheses. 12

2 THE RESEARCH PROCEDURES. 13

Overview of Design 13

Selection of Subjects 14

Population
Selection Criteria
The Sample : Achievement Levels

Instruments 18

Individual Psychological Procedures . . 21

CHAPTER

Wechsler Intelligence Scale for Children
Rorschach
Bender Motor Gestalt Test
Uses for Objects
Object Sorting
Story Telling Task
Oral Language Sample : Linguistic Analysis
Free Drawing Task
Child Interview Schedule

Group Paper and Pencil Tests 24

Self Appraisal Scale
Achievement Attitudes Test
Semantic Differential Scale
Written Composition
Test of Caution
Drawing Completion Task

Rating Scales and Schedules 26

Clinical Appraisal Scales
Test Behavior Schedule
School Behavior Rating Scale
Pediatric Examination
Parent Interview Schedule

General Coding and Scoring Procedures . . . 29

3 DATA REDUCTION : FIRST-ORDER FACTOR ANALYSIS 31

The Eight Matrices: Description of Factors . 31

Cognitive Matrix
Motivational-Attitudinal Matrix
Rorschach Matrix
Achievement Attitudes Test Matrix

CHAPTER

Semantic Differential Scale Matrix
Self-Appraisal Scale Matrix
School Behavior Rating Scale Matrix
Clinical Appraisal Scales Matrix

Summary 48

4 DIFFERENCES IN PSYCHOLOGICAL AND PHYSICAL ATTRIBUTES BETWEEN ACHIEVEMENT AND SEX GROUPS 49

The Eight Hypotheses 49

Hypothesis 1 : Cognitive Functioning
Hypothesis 2 : Ego Strength
Hypothesis 3 : Self-Appraisal
Hypothesis 4 : Motivation and Effort
Hypothesis 5 : Attitudes Toward School and Authority
Hypothesis 6 : Emotional Health
Hypothesis 7 : Sex Differences
Hypothesis 8 : Physical Health

Additional Data Analysis. 71

WISC Subtests
Rorschach
Perceptual-Motor Performance - Bender Gestalt
Motivational Items
Goal Responsibility
Perception of Teacher
Incidental Observations

Summary 79

CHAPTER

5 THE CHILDREN'S FAMILIES 81

Participation in the Interview 81

Background Status Variables 82

Family Structure
Dwelling Conditions
Parental Occupation and Education
School Items

Ratings of Psychological Dimensions of the Home 87

Achievement and Sex Differences in Background Items. 89

Status Variables
Psychological Dimensions
Correlations of Background Variables with Achievement Status

6 INTERRELATIONSHIPS AND FURTHER DATA REDUCTION 94

Correlations Among the Psychological, Physical, and Background Variables 94

Psychological Variables
Background Variables
Physical Variables
Correlations between Psychological and Background Variables
Correlations between Psychological and Physical Variables
Correlations between Background and Physical Variables
Summary

CHAPTER

Second-Order Data Reduction 106

  Description of the Five Second-Order Factors
  Achievement and Sex Differences
  Summary

7 DISCUSSION 113

Variability of Performance in Lower-Class Children 113

Challenges to Current Views 116

  Language Deficiency
  Productivity of Ideas
  Cognitive Style Variables
    Caution
    Response Speed
    Curiosity Behavior
  Self-Concept
  Attitudes and Motivation
  Family Structure and Attitudes
  Health
  Sex Differences

Evidence Supporting Current Views 126

  Educational Retardation
  Perceptual-Motor Functioning
  Level of Anxiety

Achievement Correlates and Social Class . . 128

  Lower-Class and Middle-Class Achievers
  Strengths of the Low Achievers

Interdependence of Cognitive and Self Development 130

  Teacher Appraisal and Self-Concept
  Cognitive and Ego Functioning

CHAPTER

8 CONCLUSIONS AND IMPLICATIONS 133

Conclusions 133

Implications 135

9 SUMMARY 138

Purpose 138

Subjects and Instruments 138

Analysis of the Data. 140

Findings 142

Achievement and Sex Differences
Interrelationships Among the Variables

Conclusions and Implications. 146

REFERENCES. 149

APPENDICES : INSTRUMENTS, SCORING PROCEDURES, AND DESCRIPTIVE FINDINGS. 156

A Wechsler Intelligence Scale for Children . . . 157
B Rorschach. 158
C Bender Motor Gestalt Test 160
D Uses for Objects : "Brick, " "Paper," "Knife". 161
E Object Sorting 162
F Story Telling Task 164
G Oral Language Sample : Linguistic Analysis. . 168
H Free Drawing Task 170
I Child Interview Schedule 171
J Self-Appraisal Scale 175
K Achievement Attitudes Test 177
L Semantic Differential Scale 180
M Written Composition : "The Way I Am in School" 183

N Test of Caution. 184
O Drawing Completion Task. 188
P Clinical Appraisal Scales 191
Q Test Behavior Schedule. 193
R School Behavior Rating Scale 195
S Pediatric Examination 197
T Parent Interview Schedule 199

CASE STUDIES 204

Introduction 204
Cases A, B, C, D, E, F 206
Comments on Cases A through F 254
Cases G, H, J, K 256
Comments on Cases G through K 293

LIST OF TABLES

1. Population Distribution of Grade Equivalent Scores: Reading Comprehension and Arithmetic Computation 16

2a. Distribution of Grade Equivalent Scores for the Sample: Reading Comprehension and Arithmetic Computation 19

2b. Means and Standard Deviations of Grade Equivalent Scores in Reading and Arithmetic for High and Low Achieving Girls and Boys. 20

3. Factors from Cognitive Matrix : Items and Loadings 33

4. Factors from Motivational-Attitudinal Matrix: Items and Loadings 36

5. Factors from Rorschach : Items and Loadings . . . 39

6. Factors from Achievement Attitudes Test : Items and Loadings 41

7. Factors from Semantic Differential Scale : Items and Loadings 42

8. Factors from Self-Appraisal Scale : Items and Loadings 44

9. Factors from School Behavior Rating Scale : Items and Loadings 46

10. Factors from Clinical Appraisal Scales : Items and Loadings 47

11. Cognitive Factors : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects. 51

12. Ego Strength Factors : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects. 55

13. Self-Appraisal Factors : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects 57

14. Academic Motivation Factors : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects 59

15. School and Authority Attitude Factors : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects 62

16. Emotional Health Factors : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects 65

17. Health and Physical Status Measures : F Ratios and Significant Correlations for Achievement, Sex and Interaction Effects 68

18. Percentage of Children Showing Certain Family and School Background Characteristics in Each Subgroup and Total Sample 83

19. Ratings of Psychological Dimensions of the Home : Means and Standard Deviations for Each Subgroup. . 88

20. Family Status Variables and School Items : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects 90

21. Psychological Dimensions of the Home : F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects. 92

22. Intercorrelations Among the Psychological Factor Scores 96

23. Intercorrelations Among the Background Variables 99

24. Intercorrelations Among the Physical Variables . . 101

25. The Five Second-Order Factors : Items and Loadings 107

26. Second-Order Factors : F Ratios and Correlations for Achievement, Sex, and Interaction Effects . . . 110

CHAPTER 1

ISSUES IN RESEARCH ON ACHIEVEMENT OF LOWER-CLASS CHILDREN

The education of children from an economically and culturally deprived environment raises special problems but also poses imperative challenges. It is well known that, as a group, lower-class children fall below middle-class children in academic attainment. Less well publicized, however, is the objective observation that some children from impoverished backgrounds do achieve satisfactorily in school. It was the purpose of this study to ascertain the distinguishing characteristics of such children which may relate to their success in elementary school learning. The assessment covered a broad spectrum of cognitive, affective, and physical traits, as well as background factors.

Subjects for this investigation were underprivileged Negro children who may be viewed as experiencing particularly severe deprivation. One major social and educational crisis confronting the American people today stems from the waste of human resources in the Negro population. It is hoped that a study with emphasis on the strengths of the successful learner in this group ✓ will help to dissipate the stereotype that the lower-class Negro child is necessarily a poor academic risk.

Correlates of Achievement in Middle-Class Children

Research on school achievement has most often been concerned with underachievement of bright children from middle-class homes at the high school and college levels.

Intellective and Personality Variables

Gowan (38) and Taylor (87) reviewed the important literature on the variables related to achievement among students at the upper school levels. Gowan's review covered several areas which have relevance for the present study. First, were the personality factors that were found to be associated with achievement, for example, ego strength, well-developed controls, and self-confidence. The better achievers also showed greater maturity and seriousness of interests, the need to seek the approval of adults, and a willingness to postpone immediate pleasures. In addition, certain characteristic patterns in the family contributed to achievement, particularly when there was consonance of parental and child values, goals, and plans. Still another important group of factors were the general cultural pressures to which the child reacted either by aggression or conformity, with varying impact upon achievement.

Taylor's findings, dealing primarily with personality traits, were similar to Gowan's. The high achievers showed positive self-value, acceptance of authority, little conflict between dependence and independence, and directed anxiety. They were also academically oriented and had goals that were realistic.

A more recent publication by Lavin (61) confirmed the tendency for achievement studies to deal chiefly with populations from the secondary and college levels and to concentrate on the able but underachieving student, with the IQ serving as a measure of capacity. The review surveyed the three broad areas of intellective, personality, and sociological factors that have been frequently used in predicting achievement.

Lavin's summary suggested that intellective factors were the best predictors of academic performance. Personality predictors, though more variable in their effects, were also important. Specifically, positive self-image, greater clarity of vocational interests, a higher degree of independence, and higher achievement motivation were clearly associated with achievement. Finally, socio-economic status was recognized as being highly related to academic performance. Interesting also was the finding that the more the students' attitudes and values coincided with those of the teacher, the higher was their academic performance.

A recent book entitled Underachievement (60) again mirrored the emphasis still given to studies at the upper school levels and the concentration on the bright underachievers, though the editor, Kornrich, noted in his preface that he would have preferred to include more studies of poor achievement at all ability levels, had they been available.

One of the relatively few studies to deal with achievement on the elementary school level was d'Heurle's (32), using as subjects third-grade gifted pupils. The children in this investigation who were overall high achievers demonstrated, among other characteristics, emotional control, acceptance of adult values, and good ability to organize and integrate experiences, ideas and feelings. Pupils with uneven achievement, e.g., those high in reading but low in arithmetic, exhibited identifiably different constellations of personality traits.

Also on the elementary school level, Minuchin (69) studied a group of fourth grade middle-class urban children, all of whom were working at grade level or above. The higher achieving group from this population was significantly more capable and competent on cognitive tasks than the lower achieving children, although there were no significant differences between the groups in creativity of thinking. Some tentative sex differences were found, with the high achieving boys being the more constricted in their intellective processes.

Physical Traits

Other investigations, studying physical characteristics as related to academic achievement, did not produce consistent findings. Klausmeier (56) discovered no relationship between physical traits (height, weight, strength of grip), and achievement in a favored population of elementary school children. Brown (13) similarly indicated that measures of physical performance and growth did not contribute to the prediction of academic performance. Clarke (16), on the other hand, studying boys of 9, 12 and 15 years of age, reported a consistent tendency for groups high on strength and growth tests to achieve higher means both on standard achievement tests and in grade-point averages. It could be posited that the relationship between physical well-being and achievement in a lower-class group may be more significant than in a middle-class group, since a larger proportion of underprivileged children might fall below a minimal level required for school functioning.

Sex Differences

Sex differences in achievement have received some attention. Here, too, the findings have been contradictory, although it has frequently been observed that girls have fewer learning problems than boys, at least at the elementary school level.

In a study on the onset of underachievement in bright children, Shaw and McCuen (84) stated that underachieving boys could be identified as early as the primary grades; girls, not until ninth grade. Among lower-class Negro children, a legitimate area of investigation could explore whether larger sex differences in achievement might stem from the matriarchal family situation prevailing in many homes, with the boys experiencing the greater difficulty.

Summarizing the cited studies, the attributes and characteristics most often found to be related to achievement in middle-class children included intellective factors, particularly competence in cognitive skills; psychodynamic factors such as ego strength, self-confidence, high achievement motivation, specific goal orientation; and interpersonal relationships that indicated acceptance of and conformity with adult values and demands. The position taken in this study was that the same cognitive and affective variables that distinguish high and low achievers in a middle-class population also serve to distinguish high and low achievers in a lower-class population.

Race and Class Differences in Achievement

Differences between social-class and ethnic groups in school achievement and in general intellectual level have been repeatedly demonstrated over the past fifty years. Always, the middle-class groups achieved higher scores than lower-class groups and white populations did better than Negro populations.

Recent studies indicated that these class and race differentials still hold. Coleman's extensive survey (20) on a national level, involving 645,000 children in about 4,000 schools, found that the achievement of white children was higher than that of Negro children. In the Northeast, for example, the differences in reading and arithmetic were almost two years at Grade 6, and increased until the gap was nearly three years at Grade 12. This cumulative deficit has also been stressed by Deutsch (29) and others. For example, Clark in the HARYOU Report (44) analyzed

IQ and achievement data for New York City Negro children living in Central Harlem (the same area from which the subjects of the present study were selected). Children in 20 Harlem schools were compared with New York City children as a whole, as well as with a national sample. While New York City median scores for both IQ and achievement were slightly below the national norms, the Harlem children scored considerably lower. On IQ, the Harlem sample averaged 10 points below the national norm at Grade 3 and almost 14 points below at Grade 6. Similarly, in reading comprehension in Grade 3, the Harlem children were over a year below the average grade level performance for New York City and in Grade 6 they were two years below. Two large scale studies from the South (22, 72) also reported that differences between white and Negro children increased as they progressed from Grades 4 through 12.

It should be stressed that in many investigations, social-class differences and Negro - white differences are confounded since the majority of the Negro population is concentrated at the lower economic levels. From the work done at the Institute for Developmental Studies, however, it was quite clear that within both the white and the Negro groups, social-class level and achievement functioning were substantially related and, further, that social class was more often significantly associated with performance on cognitive tasks than was race (30, 31).

One may question why so much of the literature cited thus far concerned itself with causes for underachievement in middle-class children even though it had been well documented that lower-class children as a group were achieving at considerably lower levels. The answer may well lie in the fact that lower-class children, and Negro children in particular, performed poorly on intelligence tests also and therefore were presumed to be working as well as could be expected. The lower IQ's of the poor achievers provided the rationale for expecting poor academic performance from them, despite the fact that it had been shown that IQ tests and achievement tests measured similar components (21). The persistence of the IQ "explanation" was demonstrated by Shuey's recent volume (85) whose conclusions seemed to reassert the assumption that there are basic racial differences in intelligence which the educational process cannot eradicate.

In the present study, however, the IQ was viewed only as another measure of intellectual attainment rather than as a yardstick of potential. The demonstrated achievement of lower-class children was examined without anchoring it to IQ scores.

Achievement Functioning--A New Look

Concern with achievement, particularly as it is manifested in lower-class groups, has been stimulated by several concurrent theoretical developments in the areas of intelligence and motivation, as well as by prevailing social currents.

Experience, Structure, and Intelligence

The basic change has been the rethinking of the nature and course of intellectual development and the rejection of the notion that intelligence is fixed and predetermined. Hunt's emphasis (48) on the relationship between external stimulation and neurological organization assigned an important role to experience in the development of intellectual capacity. Piaget's work has also emphasized the development and differentiation of intellectual schemata through interaction with a variety of situations. In addition, empirical evidence showed that lower-class Negro children, when exposed to a more stimulating environment, improved their achievement in intellectual tasks (57).

A further recent development has emphasized the structure of intellect. Rather than viewing intelligence as a general overall ability, Guilford (40) and others have analyzed and specified the component skills that make up intelligence. Similarly, cognitive style has been considered as an aspect of intellectual behavior and a number of contrasting modalities have been described (35, 53).

Thus, a contemporary view of the nature of intelligence suggests that the level and style of cognitive functioning may develop from experience with certain types of stimulation. School achievement, therefore, may reflect to a large degree the extent to which the child has been exposed to previous experiences which could promote the prerequisites for success in the academic situation. To categorize any group of children as having "low ability" in general, and therefore to expect only low achievement from them, fails to recognize significant modifications in theories about intelligence which emphasize plasticity and specificity as part of the hypothetical structure.

Achievement Behavior and Motivation

In the motivational-attitudinal domain, the pioneer work of McClelland (65) gave impetus to the study of motivational factors in achievement behavior. Crandall (24), working with young children, extended McClelland's work by specifying three criteria for the assessment of achievement behaviors: a goal representing the attainment of approval, concern with competence of performance, and a standard of excellence. The concept of "competence" was also used by White (92) to draw together such factors as exploratory behavior and curiosity, stimulus seeking, and drive for mastery, aspects significant for the understanding of achievement behavior.

Rosen (79) found that lower-class populations in general showed relatively low achievement motivation, a factor closely related to actual performance, but that the Negro segment of the lower-class had unexpectedly high investment in those achievement values usually associated with the middle class. A theory-based, differentiated and analytical view of achievement behavior must take into account the etiology of this discrepancy. It may be that the Negro lower-class child truly values learning but often does not see it as possible for himself as an individual. The concept of powerlessness, a pervasive mood in the Negro community as a whole, may have its early roots in this gap between values and attainable goals.

Experimental Studies of Learning Abilities

A fairly large number of studies have compared the actual learning abilities of children from different backgrounds and the specific conditions that facilitate their learning, with meaningful results.

Semler and Iscoe (82) set out directly to compare the learning abilities of Negro and white children on paired-associates tasks. They used young children ranging in age from 5 to 9 years; previous measurements had determined the white children to have had significantly higher IQ's. While white children were found to be superior to Negro children in learning ability at the younger ages, this difference decreased steadily across the age levels studied and was not significant in the summary analysis, despite the higher IQ's and higher socioeconomic status of the white children. The authors urged that their "findings of no overall race difference in learning ability should not be minimized."

Other studies have examined the differential effects on learning of various kinds of reward selected for their presumed appropriateness for different groups. Haggard as early as 1954 (42) demonstrated that lower-class children improved their performance on intelligence tests when they were given a material reward. Zigler (96) also claimed that lower-class children performed as well as middle-class children on a concept-switching task under their own optimal reinforcement condition, i.e., when a tangible reward was offered. This was consistent with other research findings (33, 45, 88) in which lower-class children exhibited better performance with material incentives than with intangible rewards.

Using a more subtle approach, Rosenhan (80) tested the responsiveness to approval and disapproval of children from different social classes and racial groups. He concluded that these two types of reinforcers have differential effects according to the social class of the subject. Lower-class children were much more responsive to approval than disapproval, surpassing a middle-class group in final performance on a binary-choice manipulation situation under the approval condition. No differences emerged between white and Negro lower-class subjects, suggesting that with young children, class was a more significant determinant for learning than race.

While much past as well as present research has emphasized existing intellectual differences between social classes and ethnic groups, the results of experimental studies of learning suggest that under appropriate conditions children are able to learn better than their IQ or social class or ethnic status would have predicted.

The Genesis of Low Achievement in Lower-Class Children

In recent years, studies of lower-class children have been accumulating at a rapid rate, but the emphasis, with few exceptions (64, 68) has been not so much upon the determinants of satisfactory achievement as upon the multiple factors which may explain inadequate school functioning. Either directly or by implication the stress has been on deficiencies of the lower class in comparison to the middle class. In a recent review of the literature on the characteristics of lower-class children, Gordon (37) also noted this emphasis.

Whereas poor school achievement had previously been attributed primarily to inferior intellectual ability in the lower class, recently such antecedent factors as the absence of the father, lack of identity, feelings of helplessness, perceptual difficulties and inadequate language experiences have become the centers of research attention.

The lower-class home has been described as overcrowded and disorganized, producing a physical and psychological environment which discourages academic pursuits, despite parents' professed concern with education. It was felt that there was markedly less verbal communication in the lower-class home than in the middle-class home and considerably fewer cultural artifacts. Especially among Negroes, the powerlessness and helplessness produced by marginal, welfare living in families headed by women deepened a sense of insecurity in both adults and children.

A number of investigators have related characteristics of the lower-class home environment to perceptual, conceptual and linguistic deficits observed in lower-class children. Deutsch (29) considered noisiness and lack of visual stimulation in the lower-class home a source of inattention, lack of concentration and poor auditory and visual discrimination. Deutsch and his associates (30, 51) have also documented the deficiencies of lower-class children compared to middle-class, and of Negro children compared to white, in a number of language and cognitive functions.

The pervasive effects of lower-class linguistic environment have been stressed by Bernstein (9) who argued that from the earliest use of language in the mother-child relationship, lower-class children are exposed only to restricted forms which hamper the development of higher cognitive abilities. It seemed indisputable that the cognitive deficiencies of the lower-class child contributed to his difficulties in school.

Some investigators have also pointed to distinctive cognitive styles in the lower class which may militate against successful performance in the typical school situation. It is not clear, however, just what styles are typical of lower-class children. Riessman (78) talked of their more motoric, concrete, slow style in contrast to the middle class. On the other hand, lower-class children have often been described as more impulsive and studies have, in fact, shown that they reacted more quickly in certain tasks than did middle-class children (53, 81).

Pursuing the origins of greater perceptual difficulty and psychomotor deficit in young children of the lower class, Pasamanick and Knobloch (74) traced the relationship between income level, health status and school adjustment, and found that relatively poor prenatal health and perinatal care given underprivileged mothers in clinics increased the incidence of irreversible developmental defects.

The lower-class environment, so impoverished physically, verbally and psychologically has also been seen as playing a critical role in impairing the development of ego strength and other aspects of the personality. Ausubel (3) highlighted the loss of self-esteem in lower-class Negro children and the inability to accept personal responsibility. Also, it was felt that when fathers were absent, the children, especially boys, were deprived of a normal sense of identification and role expectation.

Finally, the schools attended by lower-class Negro children, particularly when segregated, have been judged inferior in many ways to those attended by middle-class white children, as has been shown by Coleman (20). While the present study controlled for, rather than studied, variability in basic school characteristics and student body, it should be noted here that an additional barrier to educational success in lower-class Negro children is the prevalence of inadequate and segregated schools.

Thus, the stress in current research has been that environmental deprivation of many kinds, in utero and onwards, rather than inherently limited potential, is the source of low achievement in lower-class children. It is possible that those lower-class children who do achieve in school are relatively less handicapped with respect to their cognitive, affective, motivational, and physical development than those lower-class children who do not achieve. The lower-class high achiever may possess to a greater degree those traits which have been considered typical of middle-class children. It may also be that within a lower-class environment, even small differences in socioeconomic level may be associated with variation in achievement. Important differences between lower lower-class groups and upper lower-class groups in many aspects of family and community life have been described (55, 75).

Focus on the prevalence of deficiencies in the life situation of the lower class, however generously interpreted, may serve to project a fallacy as deceptive and invalid as that resulting from the earlier emphasis on the inferior intellectual potential of the lower class. Both approaches tend to portray the lower class as a monolithic whole. Thus, the wide spectrum of variability which actually exists within each class group and the considerable overlap between the classes are often disregarded. It is interesting that even those, such as Riessman (77), who emphasized the strengths of the lower-class child, tend to fall into this pattern.

This is not to imply that there has been no recognition of exceptional individuals in the lower-class group; there has been. What is being argued is that the lower class, as a group, has been designated too often as possessing uniform characteristics. Any deviation from this catchall mold of lower-class uniformity becomes an exception which reinforces rather than challenges the new stereotype. Unless, however, an investigation is directed toward pinpointing and delineating those aspects which particularize rather than homogenize lower-class achievement functioning, the stereotype will become fixed.

It was the aim of the present study, for this reason, to shift the emphasis and concentrate on the characteristics of normal children from an impoverished background who are successful in school. The design of the study limited the variability in background factors and, while information on home and school situations was obtained, the hypotheses centered upon the traits of the children themselves.

Hypotheses

In an effort aimed at increasing the fund of knowledge and insights concerning successful learners among lower-class children, the present study investigated correlates of school achievement within this group. The following hypotheses were advanced:

1. High achievers are superior to low achievers in cognitive functioning, particularly in convergent thinking abilities.

2. High achievers excel in aspects of ego strength.

3. High achievers appraise themselves more positively.

4. High achievers show greater motivation and effort in academic areas.

5. High achievers have more positive attitudes toward school and authority figures and conform more to adult demands.

6. High achievers exhibit better emotional health.

7. Girls are superior to boys on the psychological variables investigated, with interaction effects due to greater differences between the high and low achieving boys than between the high and low achieving girls.

8. High achievers are superior in physical condition and in general health.

CHAPTER 2

THE RESEARCH PROCEDURES

Overview of Design

Since there had been relatively little previous attention given to specifying the correlates of achievement among lower-class Negro children, this study was designed to assess a broad spectrum of cognitive, affective, physical, and situational variables. It was decided to employ a contrasting group design with subjects selected from the high and low ends of the achievement continuum both to maximize the opportunity for identifying traits that vary with achievement and to keep the number of subjects within reasonable limits for the extensive assessment planned.

The design called for the selection of 80 "high" and 80 "low" achievers, a number considered adequate to detect small to medium sized differences (19). The sample was to be equally divided by sex, all children of approximately the same age, in the same grade in school, from urban Negro families that could be classified as being of low socio-economic status. The grade chosen was the fifth, when children are between 10 and 11 years of age and can cope with a variety of tasks, and when level of achievement functioning can be evaluated with some reliability.

Selection was made from a normal fifth-grade population, primarily on the basis of demonstrated school achievement in reading and arithmetic. The concepts of "over" and "under" achievement in relation to measured IQ were not considered relevant for this design. The IQ was viewed as another evidence of intellectual achievement rather than as an indicator of potential.

The subjects were given a battery of 13 individual and group psychological instruments in four sessions; they were rated by their teachers and examined by a pediatrician. Their parents were interviewed at home by a social worker. In addition, clinical evaluations were obtained for the assembled psychological materials for each subject. The assessment program focused primarily upon the present status and functioning of the children.

Factor analysis was used to reduce the large number of psychological scores obtained. Analysis of variance was performed to determine the significance of achievement and sex differences for first-order factor scores as well as for items from the medical examination and home interview. A second-order factor analysis was carried out and also subjected to analysis of variance. The group results were used as guides in the selection of subjects for case studies.

Selection of Subjects

Population

Ten schools in a depressed area in New York City were canvassed in order to locate the required number of high and low achievers at the specified grade level. These schools were located in two adjoining school districts in the Central Harlem area of New York City, under one district superintendent, enrolling a school population which was over 95% Negro. The schools were among those designated by the Board of Education as "Special Service" schools based on relatively low family income levels and educational retardation. Permission was granted to administer standardized achievement tests to all the children in attendance in fifth-grade classes in the ten selected schools.

The Reading Comprehension and Arithmetic Computation subtests of the Metropolitan Achievement Test were administered during October-November when the children's grade level was 5.2. The Elementary Form B was given to 54 classes; two of these classes, in which some children reached the ceiling on the Elementary test, were retested with the Intermediate Form B. After the children in a class had been tested by the research staff, the teacher was given a class roster and asked to rate each child on a four-point scale ("Poor" to "Very Good") in reading, vocabulary and arithmetic.

In order to provide a picture of achievement levels in the population from which the sample was chosen, the distributions of grade equivalent scores for the 1331 children examined are given in Table 1. The population medians were more than one and one-half years below grade level in reading and one year below in arithmetic. Approximately 15% of the children were at or above grade level on each of the tests. In contrast, for New York City as a whole on the same test given in the same year, 44.1% of the fifth-grade children scored at or above grade level (15). When an attempt was made to identify children who were at or above grade level in both reading and arithmetic, it was found that only 8% of the tested population fulfilled the double criterion.

The reading scores had a wider range than the arithmetic scores. Some children at the lower end of the distribution were virtually nonreaders. The better readers had evidently been able to move ahead in reading more rapidly than in arithmetic which depends to a greater extent on specific classroom instruction.

Selection Criteria

It was necessary to establish criteria for two basic dimensions in the selection of the subjects: achievement level and social-class status. The achievement cutoff points initially defined for the high achievers were grade-level performance or better in both the reading and arithmetic tests administered for the project, and for the low achievers, at least two years below grade level, but not lower than 2.0. Children were chosen as subjects only if teachers' current ratings on achievement, as well as record card information on past marks and standard test scores, were consistent with performance in our testing.

The social status of each family was to be "lower-class," determined on the basis of education, occupation, and dwelling, the three criteria often used for the assessment of social-class status (46, 90). A child was included if neither parent had more than a high school education, if neither parent was working in an occupation above "skilled manual or clerical worker," and finally, if the family was living in a low-income project or tenement. If the family did not meet the definition of "lower-class" status according to these criteria, the child was not included in the sample.

Certain other selection criteria were set to reduce the variability in background factors which might be related to

Table 1

Population Distribution of Grade Equivalent Scores: Reading Comprehension and Arithmetic Computation (Metropolitan Achievement Test)

Grade Equivalent Scores[a]	Reading		Arithmetic	
	Girls	Boys	Girls	Boys
8.1+	5	5		
7.8	14	4		
7.5	9	1	1	1
7.2	11	9		
6.9	2	1		
6.6	10	10	3	3
6.3	0	2	1	0
6.0	17	8	19	9
5.7	15	15	11	13
5.4	0	1	40	26
5.1	37	24	38	36
4.8	13	19	69	48
4.5	41	36	77	63
4.2	81	61	95	75
3.9	47	32	130	148
3.6	60	52	92	99
3.3	102	92	37	65
3.0	82	88	23	22
2.7	58	74	8	27
2.4	33	60	8	14
2.1	13	33	7	15
1.8	6	21	1	1
1.5	4	6	3	2
1.2	0	4	0	1
Below 1.2	3	10		
Total N	663	668	663	668
Q_1	3.18	2.83	3.86	3.66
Median	3.75	3.42	4.27	4.08
Q_3	4.56	4.34	4.87	4.65

---

[a] Grade level at time of testing was 5.2.

achievement functioning in school. A child was acceptable for inclusion in the sample only if both of his parents had been born in continental United States, thus excluding foreign language problems; if he had been attending schools in the North from Grade 1 on; if he fell within the age range of 9 years, 11 months to 11 years, 4 months, thus excluding overage children; and if his recorded IQ on the Otis Quick Scoring Test fell within the range of 75 to 125, thus excluding markedly deviant children. It will be recalled that even for the achievement criteria, a minimum of 2.0 in both reading and arithmetic was required in order to guard against accepting children with serious deficiency. As a further measure to obtain a "normal" group, children with gross physical and emotional impairment, as determined from records and consultation with school personnel, were not included.

Of somewhat more than 400 children who were acceptable on the basis of their achievement test scores, slightly fewer than half were not acceptable for the several reasons mentioned above. Among the low achievers, the most frequent reasons for rejection were overage or IQ below 75; among the high achievers, the main reasons were middle-class economic status or parental birthplace outside the United States. Thus, our sample of children, while coming from the high and low ends of the achievement continuum, was not as deviant as would be expected in a representative sample obtained from these two contrasting achievement levels.

The Sample: Achievement Levels

From the population of fifth graders, the task was to choose 80 high and 80 low achievers (approximately 12% of the total group) who also satisfied all the criteria set for selection. To obtain the required number of subjects, given the population distribution, it was necessary to include in the upper group several achievers who were slightly below grade level as well as to accept low achievers with less than a two year deficiency.

The selected children came from 43 different classrooms in the 10 schools, each school contributing both high and low achievers and both boys and girls, though not necessarily in equal numbers. The high achievers were distributed in 16 classrooms and the low achievers in 27 classrooms. Due to the prevalence of homogeneous grouping, there was no classroom that contained both high and low achievers.

The distributions of the achievement scores for the high and low achievers who were finally accepted are shown in Table 2a, with the means and standard deviations given in Table 2b. In Table 2b and in subsequent tables, data are presented separately for the four subgroups of interest: High Achieving Girls (HiG), High Achieving Boys (HiB), Low Achieving Girls (LoG) and Low Achieving Boys (LoB).

The top high achievers were close to five years above grade level in reading and up to two and one-quarter years above in arithmetic. The lowest children in the high group were working slightly below grade level in either reading (4.9) or arithmetic (4.6). There was no child, however, who fell below grade level in both subjects. In contrast, the lowest levels for the low achievers represented beginning second-grade level while the best in this group functioned approximately at middle third-grade level in reading and upper third-grade level in arithmetic.

As shown in Table 2b, the mean score in reading for the high achievers was 6.45 and in arithmetic, 5.40; for the low group, the scores were 2.85 and 3.35, respectively. Thus, it was felt that two distinct achievement groups had been identified, since the average difference was over three and one-half years in reading and two years in arithmetic, with no overlap. While the girls had scored somewhat higher than the boys in the total population, the selection process equated the sex groups in the sample, as far as possible, for range and mean score in both reading and arithmetic.

Instruments

Cognitive, affective, and motivational variables were assessed through a variety of psychological instruments. In addition, schedules were completed for rating school and test behavior, medical status, and home background factors. The battery of assessment devices included both standard procedures and those developed or modified especially for this study. Some of the techniques had been used in the pilot study for this project

Table 2a

Distribution of Grade Equivalent Scores for the Sample: Reading Comprehension and Arithmetic Computation (Metropolitan Achievement Test)

Grade Equivalent Scores[a]	Reading		Arithmetic	
	Girls (N=80)	Boys (N=80)	Girls (N=80)	Boys (N=80)
9.9	2	0		
9.6	0	2		
9.3	0	0		
9.0	0	0		
8.7	1	1		
8.4	0	0		
8.1	0	0		
7.8	2	3		
7.5	4	0	1	1
7.2	4	5	0	0
6.9	0	0	0	0
6.6	4	7	0	3
6.3	0	1	0	0
6.0	4	3	6	5
5.7	9	8	3	2
5.4	1	1	8	6
5.1	9	7	12	8
4.8	0	2	7	9
4.5	0	0	3	6
3.6	0	0	18	16
3.3	10	0	13	11
3.0	10	15	4	3
2.7	8	8	2	6
2.4	8	12	3	1
2.1	3	5	0	3
1.8	1	0	0	0

---

[a] Grade level at time of testing was 5.2

Table 2b

Means and Standard Deviations of Grade Equivalent Scores in Reading and Arithmetic for High and Low Achieving Girls and Boys

	HiG[a] (N=40)	HiB (N=40)	LoG (N=40)	LoB (N=40)
Reading Comprehension				
Mean	6.5	6.4	2.9	2.8
SD	1.29	1.21	0.38	0.32
Range	5.1 - 10.1	4.9 - 9.7	2.0 - 3.4	2.2 - 3.2
Arithmetic Computation				
Mean	5.4	5.4	3.4	3.3
SD	0.54	0.69	0.35	0.47
Range	4.6 - 7.5	4.6 - 7.5	2.5 - 3.8	2.1 - 3.8

---

[a] HiG - High Achieving Girls
HiB - High Achieving Boys
LoG - Low Achieving Girls
LoB - Low Achieving Boys

(27) and others had been developed on the basis of pilot study findings. In every case, instruments went through several preliminary forms based on tryouts with similar populations. Test reliability for each of the paper and pencil tests is reported in the appropriate Appendix.

The rationale for each instrument included in the battery and descriptions of the nonstandard techniques are provided below. Details concerning administration and scoring, along with descriptive results for the four subgroups, are given in the Appendices.

Individual Psychological Procedures

Wechsler Intelligence Scale for Children (Appendix A): Ten subtests of the WISC were used, five verbal (Vocabulary, Information, Similarities, Comprehension, Digit Span) and five performance (Picture Completion, Picture Arrangement, Block Design, Coding, Mazes). The specific cognitive abilities sampled by these tests, rather than the summary IQ's, were of interest in this investigation.

Rorschach (Appendix B): The full, ten card, individual Rorschach was given to assess cognitive and affective personality factors.

Bender Motor Gestalt Test (Appendix C): The Bender was used to assess perceptual-motor functioning and maturational level, as well as to detect indications of possible brain damage (59).

Uses for Objects (Appendix D): The child was asked to give as many uses as he could for three objects: brick, paper, knife. This procedure provided opportunities for divergent production in a verbal task in order to measure ideational fluency and spontaneous flexibility (40). For this study, it was also considered relevant to assess the level of accuracy by distinguishing between "possible" and "impossible" uses.

Object Sorting (Appendix E): Subjects were asked to sort objects and then to give reasons for their groupings. There were 38 common objects such as crayons, plastic utensils, and toilet articles, plus three unfamiliar objects which were included as stimuli for eliciting curiosity. The task was adapted from one used in Gardner's studies of cognitive style (35) to investigate equivalence range, i.e., the breadth of categories formed. An additional dimension of interest here was the child's conceptual ability as demonstrated by his use of appropriate superordinate labels for the categories he set up (14).

Story Telling Task (Appendix F): A modification of the TAT approach was used to explore psychodynamic variables focusing on attitudes and motivations related to academic learning. Four pictures were used, three drawn specifically for this study*, with the fourth being a standard TAT card, Number 1. (Pictures are reproduced in Appendix F).

The first picture presented, a Negro boy with an open book before him, resembled picture "H" used by McClelland (65) in his studies of achievement motivation, as well as possessing certain qualities similar to the TAT picture, Number 1, of a white boy with a violin which has also been found effective in eliciting achievement imagery (52).

The second picture, a peer group situation, was included to assess not only peer relations but also the reaction to conflict between play and school demands. The third picture depicted a classroom situation with a teacher and two young Negro children, one boy and one girl, and served to evaluate attitudes toward authority and perceptions of a teacher's role.

Several scores were obtained from the stories to assess achievement orientation including achievement imagery, need for knowledge for its own sake, projection of long-term time sequence, and assumption of responsibility. A number of other scores gave insight into the child's view of the world and his relationship to it. These included the positiveness of his story outcomes; of behavior attributed to child, authority, and peer figures; and of the emotions projected. The Story Telling protocols also provided the oral language sample described below.

Oral Language Sample, Linguistic Analysis (Appendix G): Linguistic complexity was investigated with emphasis upon basic structural dimensions rather than upon formal grammatical correctness since the former may be more directly related to the quality of thought processes. A sample of 12 sentences, drawn from the oral Story Telling Task, was analyzed according to procedures developed by Allen (1).

---

*Drawn by Mrs. Marietta Shore

Linguistic complexity was measured along several dimensions. An overall measure of complexity was obtained by analyzing the number of structural elements produced in the 12 sentences (e.g., independent and dependent clauses, certain prepositional and adverbial phrases). A further major aspect of interest was the degree of embeddedness in the structure of sentences. The ability to make a statement, qualify it, and possibly qualify or elaborate upon one's own qualification, reflects a high degree of language mastery.

The position in the sentence in which complexity occurred was also investigated. It was considered more difficult to elaborate in the early part of the sentence than in the latter part. The individual who qualifies or restricts what he is about to say gives evidence of a higher level of verbal planning than the person who qualifies or restricts what he has already said.

Another aspect of language skill considered was the ability to coordinate different time sequences in the same sentence. The person who within one sentence coordinates an idea or an event of the past with one of the present or future or with one of the further past, is evidencing more sophisticated language expression than one who relies exclusively on one tense per sentence.

Free Drawing Task (Appendix H): Two free drawings, one of a person and one of the child's family, were obtained to gain insight into the child's view of himself and his family relationships. They provided one source of evidence for the clinical evaluation of personality dynamics.

Child Interview Schedule (Appendix I): In contrast to the projective techniques of the battery, the interview provided a relatively direct method of obtaining information about variables that may bear upon school achievement. The schedule was divided into three parts. Part 1 dealt primarily with the child's after-school activities and interests plus some information about school subjects. Part 2 covered views of the educational process and academic goals. Part 3 started with questions based on the family drawing and continued with other material pertaining to family relationships and vocational aspirations.

The individual psychological procedures were administered in three sessions, each from one to one and one-half hours long, as listed below:

Session A

Child Interview Schedule, Part 1
WISC
Uses for Objects

Session B

Bender
Rorschach

Session C

Object Sorting
Story Telling Task
Child Interview Schedule, Part 2
Free Drawing Task
Child Interview Schedule, Part 3

Two psychologists handled Session A for most of the children; one of these psychologists also did Session C for all the subjects. The Rorschach and Bender were administered to the majority of children by two other psychologists particularly experienced in these techniques. Subjects were distributed so that each examiner saw an approximately equal number of high and low achievers and of girls and boys for each procedure. The examiners, however, were not informed of the child's achievement status. To detect any possible differences among the examiners, the distributions of scores on the WISC subtests and selected Rorschach scores were compared and found to be sufficiently similar to rule out any systematic bias.

Group Paper and Pencil Tests

The group tests were administered in one session to small groups of children in each school. Where there were enough subjects in a school, the high achievers and low achievers were separated, alleviating problems of disparate rates of working and permitting slight modifications in procedure. Questions were read aloud, particularly when the group included low achievers, and the children were kept together step by step. The examiner had one or two assistants, depending on the number of subjects, who checked to see that the children were following the instructions correctly. The working time of the session usually ran a little over one hour; a break was provided after the Written Composition. The group tests are described below in the order in which they were administered.

Self-Appraisal Scale (Appendix J): A list of 24 items to be rated on a three-point scale was developed to measure the child's appraisal of himself. Emphasis was placed upon learning behaviors, for example, "smart in school," "trying my best," "lazy". In addition, personal and interpersonal qualities were tapped, such as, "shy," "liked by other children". This instrument was modeled after one that had been used successfully in another study of self-perception in the school situation (28).

Achievement Attitudes Test (Appendix K): In order to obtain some direct expression of the child's values related to school and learning, a forced-choice instrument was constructed comprising 24 pairs of statements. One statement in each question was presumed to be more highly related to school achievement than the alternative. In keeping with the rationale of similar instruments (25), items were included which not only reflected direct academic concern and interest but also such variables as responsibility for completing work on time and delayed gratification.

Semantic Differential Scale (Appendix L): Following Osgood's method (73), six concepts (Mother, Father, Teacher, Me, Reading, Schoolwork) were rated on twelve five-point bipolar adjective scales. There were four scales for each of the three main dimensions identified by Osgood: Evaluative (good-bad, clean-dirty, beautiful-ugly, kind-mean), Potency (hard-soft, large-small, strong-weak, brave-scared), and Activity (hot-cold, red-green, lively-quiet, fast-slow). Thus, this instrument explored the meanings the children attached to significant persons and school-related concepts. The number of times the children marked the middle or neutral position of a scale was noted and used as a measure of cautiousness. (See further discussion of caution below under Test of Caution).

Written Composition (Appendix M): A writing sample was obtained on the topic, "The Way I Am in School," chosen as the most productive of several titles tried out with fifth-grade children. The composition provided a relatively unstructured task in which the child could reveal the degree of emphasis he placed on his role as a learner in the school situation. The composition was also used to measure productivity in written language.

Test of Caution (Appendix N): Pilot study findings (27) had pointed to a difference between high and low achievers in a trait identified as cautiousness. Therefore, a test was constructed to measure this aspect of cognitive control in a school-related task. The instrument was composed of 30 four-choice multiple choice questions. There were 18 informational items, which varied from easy to difficult, and 12 items which were "impossible" to answer since the stem contained a fabricated key word, e.g., "calibran". The use of items of the latter type controlled for differences in amount of information among the children. It was considered indicative of cautiousness if the subject refrained from marking answers to the impossible questions. The construct of caution has been used in a similar way by Fredericksen & Messick (34).

Cautiousness was also measured in a different context by noting the frequency with which the neutral position was checked on the Semantic Differential Scales. It was felt that the more cautious child would tend to avoid committing himself to either the positive or negative extremes of the scale and would more often compromise by selecting the neutral position.

Drawing Completion Task (Appendix O): This task, based upon Barron's use of the Franck Incomplete Drawing Test (5), presented subjects with eight simple, incomplete ambiguous line drawings and instructed them to complete each one in any way they wished. This provided an unstructured, nonverbal context permitting the assessment of several components of intellective and creative behavior. Seven scores were obtained which measured divergent ability in a nonverbal task and other components of creativity, e.g., complexity and dynamism. These dimensions had been cited as significant components of creativity in other work in this area (40, 50).

Rating Scales and Schedules

Clinical Appraisal Scales (Appendix P): The psychological assessment yielded information on similar characteristics measured by different devices and it was felt important to obtain some clinical integration across instruments. Accordingly, a clinical evaluation was based upon the following materials assembled for each child: Rorschach responses and scores, Story Telling protocols, Free Drawings, Bender, Uses for Objects, Drawing Completion, Written Composition, and the WISC deviation scores. Using five-point scales, children were rated on anxiety, hostility, control, need hunger, self-perception, perception of authority, reality testing, ideation, perceptual-motor impairment, plus one overall rating of degree of emotional disturbance. The selection of these particular personality dimensions and the construction of the rating scales used to assess them were done in consultation with the clinicians who later carried out the rating procedure. Certain qualitative judgments were also included such as typical mode of defense and method of relating to authority.

Because of the significance of these judgments and the level of interpretation needed, two clinicians, who were not informed of the subject's achievement status, rated each child's materials independently. The two sets of ratings were averaged since the agreement between them was satisfactory.

Test Behavior Schedule (Appendix Q): A set of 11 scales was developed for use by the examining psychologists in order to systematize and quantify their observations of each child's behavior during the testing sessions. The scales covered dimensions of oral language usage, relationship to examiner and reactions to tasks and materials, as well as the child's attitude toward his own performance.

School Behavior Rating Scale (Appendix R): Each child's current teacher was asked to rate his school behavior on a form which gave 26 statements concerning such dimensions as intellectual curiosity, temperament, work habits, and relationship to others. The statements were designed to describe specific behaviors rather than theoretical trait constructs, for example, "seeks attention, requires reassurance to complete work." The frequency of each behavior was rated on a five-point time continuum ranging from "almost always" to "almost never," thus avoiding the thorny problem of a reference group.

Pediatric Examination (Appendix S): A comprehensive physical examination of each child was conducted by a pediatrician employed by the project. The examination included the usual routine measures such as blood pressure, pulse rate, and notation of specific abnormalities and pathology, as well as laboratory procedures for urinalysis and hemoglobin. A set of six four-point summary scales was provided on which the pediatrician rated each child immediately after the examination. The scales included ratings for nutrition, neurological status, sexual maturation, vitality, posture, and an overall medical status rating. These dimensions were selected and the scales developed in consultation with the pediatrician to assess aspects that may be related to achievement functioning in school.

The nurse's office in each school was made available for the examinations. A research assistant helped the doctor by calling for the children in their classrooms and doing some of the routine height, weight, vision, and hearing measurements, and simple tests of physical strength and capacity, such as hand grip and breath holding (66).

A word about the children's behavior during the several testing sessions is appropriate at this point. The administration of the group tests, both the original achievement tests to the entire population and the tests given only to the selected sample, was carried out on schedule and without difficulty. The children were well behaved, attentive, willingly complied with the requests of the examiners and often expressed concern about whether they were doing the task correctly. During the individual testing sessions, the children showed varied reactions, but their overall willingness to cooperate was noteworthy. There was only one child of the 160 selected, a boy, who was close to being dropped from the sample because of his behavior but he came through in the end.

Parent Interview Schedule (Appendix T): A home visit of approximately one and one-half hours was designed to serve several purposes. First, it was needed to verify the child's social-class status which had been tentatively identified as "lower-class" from information on the school record card. If the interview information showed that the family status was not "lower-class" as defined by the selection criteria, the child was not used in the sample. If the family met the criteria, parental permission was obtained to allow the child to participate in the testing program of the project.

In addition to the subject selection purpose, the visit was designed to observe a number of objective characteristics of the home, including condition of apartment, number of rooms, presence of books and magazines. The interview also secured material for assessing the home situation with special emphasis on parents' concern for education, their aspirations for their children and whether these were based on realistic knowledge, the degree to which family life was orderly and planful, modes of discipline, and parental awareness of their children as individuals.

The rationale employed in constructing the home interview was similar to that used by Wolf (94) from whom several questions were adapted. The interview schedule stressed chiefly current practices presumed to be related to the learning differences under investigation rather than early antecedent material or more hidden psychodynamic processes.

The interview was conducted by an experienced social worker* who was not informed of the child's achievement status. He made personal contact with the family who had previously been notified by letter from the school principal to expect a call for an interview appointment. Although the social worker used a prepared set of questions, the interview itself was informal, necessitated often by the home situation where children and possibly other members of the family were present. Generally, meetings took place in the evening or on Saturday afternoons.

General Coding and Scoring Procedures

Although scoring details for each instrument are given in the Appendices, some of the general procedures used in processing the materials should be noted here. The scoring of tests where standard scoring procedures exist, such as the WISC, the Rorschach, the Bender, and the group tests was done by one individual and checked by another.

For the tests such as the Uses for Objects or Object Sorting that required content analysis and coding of material, codes were developed and tried out independently by at least two people with subsequent consultation and revision. Where the coding required making judgments (e.g., achievement imagery in Story Telling; ratings of psychological dimensions of the home from the Parent Interview), a sample of protocols was scored independently by two people and interrater agreement calculated. These results are reported in the appropriate Appendices. After final coding procedures were defined, one person coded all subjects' records for a specific instrument.

---

*Because of the nature of the interview and the sample, a Negro social worker was deliberately selected.

Scores were assigned to the coded categories with the larger values, in most cases, representing the more positive or more academically-oriented traits. These scores formed the basis for the factor analyses described in the next chapter.

CHAPTER 3

DATA REDUCTION: FIRST-ORDER FACTOR ANALYSIS

The Eight Matrices: Description of Factors

The psychological assessment devices described in Chapter 2, including the objective and projective tests, the behavioral ratings by teachers and examining psychologists, and the clinicians' ratings of aspects of personality functioning, plus the information obtained in the interview with the child, yielded 205 separate scores. In order to obtain fewer, conceptually clearer, and more reliable variables, factor analyses were performed for eight matrices. Using highest correlations as communality estimates, centroid factors were extracted until residuals were inconsequential. These factors were then rotated by Kaiser's Normal Varimax procedure, which provides an orthogonal, simple structure-like solution.

Two matrices included scores from several different instruments, one dealing with aspects of cognitive skills and functioning, and the other, with motivation and attitudes toward school and learning. The six other matrices were based on scores from specific instruments: the Rorschach, three group tests (Self-Appraisal Scale, Achievement Attitudes Test, Semantic Differential Scale) and two sets of ratings (Clinical Appraisal Scales and School Behavior Rating Scale). The medical scores and ratings and the parent interview responses were not factor-analyzed.

The 30 factors which emerged from the eight analyses are presented in Tables 3 through 10. Only the variables which were salient on each factor are listed, along with their loadings on that factor. A name has been proposed for each factor to clarify the basic common characteristic underlying the separate items. Within each matrix, the factors were numbered in order of the proportion of variance for which each accounted and a letter code was used to identify the matrix.

Cognitive Matrix

The Cognitive matrix was made up of 47 scores which measured aspects of cognition and perception derived from the following instruments: WISC, Rorschach, Story Telling, Bender, Object Sorting, Uses for Objects, Semantic Differential, Caution Test, Written Composition, Oral Language Sample, Test Behavior Schedule and Child Interview. The factor analysis yielded five factors which accounted for 40% of the total variance.* The five factors, hereafter designated by the matrix code Cog, are specified in Table 3.

The first factor, Perceptual-Conceptual Accuracy (Cog I), included 23 scores and reflected primarily education-related skills. These comprised higher level cognitive functions, such as generalization and conceptualization, and basic elements of memory and accuracy in both the perceptual and conceptual domains.

It is interesting to note that all the WISC subtests loaded on the first cognitive factor, although the WISC is made up of subtests that measure different abilities, sampling two major cognitive areas, verbal comprehension and perceptual organization. Cohen (17, 18) however, in studying normal children in one instance and psychiatric patients in another, found that the WISC subtest correlations could largely be accounted for by a single general factor. Both he and others (63, 83) noted that the WISC reflects general educative ability and Cohen also pointed out that the verbal scales in particular are influenced by previous experience and education.

The Cog I factor may be considered close to an achievement measure, or even to an IQ measure obtained from a test like the Binet, by virtue of the fact that there is such a concentration of verbal and educational items. Vernon (89) identified a similar factor as "verbal-educational," emphasizing the verbal underpinning necessary for academic achievement. It may be seen in Table 3 that as the verbal-educational content of the items declines the factor loadings go down.

---

*It should be clear that the factor analytic strategy assumes that the common factors exhaust the maximally relevant sources of variance in the data; in this instance amounting to 40%. The proportion not accounted for is error variance, which is likely to be high for many kinds of assessments made in this study, and true specific variance.

Table 3

Factors from the Cognitive Matrix: Items and Loadings
(All decimal points omitted)

Factor I (Cog I)

Perceptual-Conceptual Accuracy	
Vocabulary (W)[a]	78
Information (W)	78
Similarities (W)	61
Comprehension (W)	60
Picture Arrangement (W)	60
Block Design (W)	58
Correct Grammar (TB)	55
Mazes (W)	51
Non-Rotation Errors (B)	-51
Number Words Written (C)	50
Freedom from Colloquialism(TB)	46
Number Unchecked Choices (CT)	43
Correct Pronunciation (TB)	42
Number Neutral Positions Checked (SD)	41
Rotation Errors (B)	-40
Task Elaboration (TB)	40
Coding (W)	39
Digit Span (W)	37
Picture Completion (W)	37
% Superordinate Groups (O)	28
Reaction Time (O)	-26
Number Groups Formed (O)	-26
Number Impossible Uses (U)	-22

Factor II (Cog II)

Nonverbal Creative Production	
Complexity (DC)	85
Fit to Stimulus (DC)	84
Dynamism (DC)	82
Number Popular (DC)	-65
Asymmetry (DC)	65
Number Original (DC)	62
Number Categories (DC)	35

Factor III (Cog III)

Linguistic Complexity	
Total Depth (OL)	87
End Complexity (OL)	81
Maximum Depth (OL)	60
Time Sequence (OL)	57
Beginning Complexity (OL)	46
Number Words Used (ST)	46

Factor IV (Cog IV)

Response Speed	
Amount of Talking (TB)	65
Slowness of Response (TB)	-59
Reaction Time (R)	-50
Response Time (R)	-39
Reaction Time (ST)	-39
Reaction Time (U)	-37
Number Words Used (R)	35
Response Time (0)	-26

Factor V (Cog V)

Verbal Divergent Production	
Number Categories (U)	71
Response Time (U)	71
Number Possible Uses (U)	70

---

[a] Letters in parentheses indicate the test from which each item was derived, using the following code:

B - Bender
C - Composition
CT - Test of Caution
DC - Drawing Completion
O - Object Sorting
OL - Oral Language : Linguistic Analysis
R - Rorschach
SD - Semantic Differential
ST - Story Telling
TB - Test Behavior
U - Uses for Objects
W - WISC

The highest WISC loadings on the Cog I factor were those for verbal informational learning (Vocabulary, Information) followed by other verbally expressed tasks (Similarities, Comprehension). The three tasks requiring visual analytic abilities (Picture Arrangement, Block Design, Mazes) also had substantial loadings, while routine memory and attention (Coding, Digit Span, Picture Completion) were somewhat lower.

In addition to the typical cognitive skills, the Cog I factor contained several items that may be considered aspects of "style." One style component of particular interest in this study, referred to as "caution," was represented here by positive loadings for two scores, Number Unchecked Choices for impossible items on the Test of Caution and Number Neutral Positions Checked on the Semantic Differential. Caution is a characteristic that has not frequently been considered in relation to cognition, although studied with regard to a number of personality characteristics such as level of aspiration (71) and intolerance of ambiguity (67). Also included among the cognitive style variables related to cognitive ability, but with low loadings, was the tendency to sort objects into relatively few, but large, groups (broad equivalence range) as indicated by the negative loading of the variable, Number Groups Formed on Cog I.

The fact that the two Bender error scores loaded negatively on this factor underlined the important relationship between perceptual-motor accuracy and higher level cognitive skills. This was reinforced by another negative, though weak, loading on Number Impossible Uses, a score which also reflected lack of accuracy.

While tasks involving a verbal component were clearly evident in the first factor, the several scores derived from a linguistic analysis of oral language defined a separate factor, Linguistic Complexity (Cog III). The capacity to use elaborated sentences with embedded elements which this factor tapped thus seems somewhat different from the convergent verbal tasks which clustered in Cog I. The most salient items, with extremely high loadings, were the overall amount of complexity sustained over the entire passage analyzed, and the extent to which complexity or qualification was added at the end of the sentences. The variation in time relationships and the more sophisticated, planned use of qualification at the beginning of a sentence had somewhat lower, though still substantial loadings. The fact that Number Words Used in the Story Telling Task loaded on this factor may be an artifact of the procedure for selecting the oral language sample which consisted of 12 sentences from the story protocols without controlling for number of words.

Factors Cog II and V may be considered together since both included a divergent thinking dimension. In Cog II, Nonverbal Creative Production, this dimension was observed in a nonverbal task while in Cog V, Verbal Divergent Production, in a verbal one. The highest loadings on the Cog II factor, however, related to creative abilities as demonstrated in relatively well-elaborated, complex, dynamic drawings which showed adequate fit to the stimulus. The qualities of originality, asymmetry, and flexibility (Number Categories) showed weaker loadings on Cog II. The Cog V factor was entirely defined by verbal scores for flexibility and fluency, along with response time, all showing equally high loadings.

Relative quickness in responding to stimuli, as well as amount of talking, were essential aspects of Cog IV, Response Speed. Since Cog IV emerged as a separate factor, response speed and amount of talking appear to represent style qualities that are relatively independent of the abilities and skills, as well as of the style components that loaded on the other factors. The loadings were particularly high for two test behavior observations, positive for Amount of Talking and negative for Slowness of Response, with more talking, therefore, related to quicker responding. The other time scores from the Rorschach and Story Telling, Uses for Objects, and Object Sorting also loaded negatively here. The presence of all the time scores, with two exceptions, on one factor suggested that speed of response is a relatively general trait across instruments.

Motivational-Attitudinal Matrix

A second set of 28 scores presumed to have some theoretical relationships formed the Motivational-Attitudinal matrix. The items came from the Story Telling Task, Child Interview, Written Composition, Object Sorting Task and Test Behavior Schedule. As shown in Table 4, four factors emerged from this matrix, accounting for 26% of the total variance.

Table 4

Factors from the Motivational-Attitudinal Matrix: Items and Loadings (All decimal points omitted)

Factor I (Mot I)

Achievement Motivation

Achievement Need (ST)[a]	64
Need for Knowledge (ST)	62
Responsibility (ST)	58
Time Orientation (ST)	47
Attitude towards Own Performance (TB)	36
Need for Knowledge (C)	33
Attentiveness to Examiner (TB)	28
Interpersonal Involvement with Mother (CI)	28
Emphasis on Academic Learning (C)	27
Interpersonal Involvement with Father (CI)	25

Factor II (Mot II)

Optimism

Story Outcome (ST)	67
Success of Child Behavior (ST)	56
Authority Behavior (ST)	47
Positiveness of Child Feelings (ST)	44

Factor III (Mot III)

Curiosity Behavior

Seeking Help (TB)	58
Number Questions Unfamiliar Objects (O)	54
Frequency Spontaneous Questions (TB)	52
Amount Handling Unfamiliar Objects (O)	45
Amount Handling Test Materials (TB)	40
Peer Behavior (ST)	-33
Mother's Pleasure in Child's Achievement (CI)	27

Factor IV (Mot IV)

Academic Interests

Reading Interests (CI)	49
Solitary Activities (CI)	43
Vocational Aspiration (CI)	33
After-School Activities (CI)	33
Mode of Discipline (CI)	30
Concept of "Good" Teacher (CI)	26
Family Activities Outside Home (CI)	24

---

[a] Letters in parentheses indicate the test from which each item was derived, using the following code:

C - Composition
CI - Child Interview
O - Object Sorting
ST - Story Telling
TB - Test Behavior

The largest factor, both with respect to number of items and to proportion of variance accounted for, was the expected one of Achievement Motivation (Mot I). The item which received the highest loading was based on the presence of Achievement Need in the stories the child told, followed by the Need for Knowledge score, also based on the stories. This factor included, as well, two other scores from the Story Telling Task, Responsibility and Time Orientation. Another Need for Knowledge score from the Written Composition also appeared on this factor but carried a much lower loading than the first one mentioned above. It was interesting to note that interpersonal involvement with parents loaded on this factor, though among the weakest items, suggesting that positive perception of relationships to parents may be important for the setting of personal goals.

The second factor (Mot II) was interpreted as Optimism since it incorporated scores for success elements in the stories, including favorable story outcome, seeing the child's behavior and his feelings as positive and also viewing the behavior or attitudes of the authority figures as good, helpful or approving.

Mot III, Curiosity Behavior, summarized primarily the child's behavior when confronted with new situations. His responses here included the amount of spontaneous questioning and handling of test materials; his freedom to ask questions of the examiner and to seek help, perhaps reflecting concern with doing the task correctly. Two additional interesting items, Peer Behavior and Mother's Pleasure in Child's Achievement appeared on Mot III, though with the lowest loadings. A negative loading for Peer Behavior, a score for the quality of interpersonal relations incorporated in stories to the peer picture, was coupled here with curiosity behaviors that implied relative confidence in, and ease with, adults, at least as expressed in the testing situation. Mother's Pleasure in Child's Achievement, with its positive loading, was consistent with a favorable view of adults.

The Academic Interests (Mot IV) factor was defined by responses from the Child Interview which emphasized a preference for educative activities over play pursuits, both when alone and when involved with others. Higher vocational goals, seeing the teacher as an explainer or helper, and engaging in activities with the family that may have some educational implications were also items that appeared on this factor, though with lower loadings.

Rorschach Matrix

The scores from the Rorschach alone comprised another matrix which yielded four factors, as shown in Table 5, accounting for 44% of the total variance. The Conventional Productivity (Ror I) factor had very high loadings for number of responses (R) and for the usual detail (D+d) and form elements (F), indicating the tendency to employ frequently used areas of the cards in an uncomplicated way. Other usual responses appeared here also (A+Ad; H+Hd).

There was clearly an Ego-Reality Integration factor (Ror II) covering the capacity to accept oneself (M), including one's instinctual feelings (FM) and original ideas (O), combined with an accurate perception of the environment (FLR). The highest loadings were for the two form accuracy scores, followed by the M and O responses. The negative loading for inaccurate form responses was consistent with the above; and for K responses, the loading was extremely low.

The third and fourth factors in this matrix offered a contrast in mode of responding to the environment. In one instance, Anxious Emotionality (Ror III), there was a kind of lability, showing up in the high loading for W and Number Different Content Categories. Included also were considerable excitability, seen in the relatively substantial loadings for CF+C, and a phobic quality (small m; monsters).

The other factor, Socialized Responsiveness (Ror IV) included scores that reflect sensitivity to the environment and controlled emotionality (FC, Fc, P). The tendency to give responses of this type was evidently associated with relatively quick reactivity since the time scores had substantial negative loadings on this factor.

Although the present analysis was based on Rorschach records of children from a depressed environment, a group little studied with the Rorschach, the four factors obtained resembled the findings of several previous studies, notably Wittenborn's work with adult subjects (93).

Table 5

Factors from the Rorschach:
Items and Loadings
(All decimal points omitted)

Factor I (Ror I)

Conventional Productivity

D+ d	95
R	94
F	86
Dd + S	82
A + Ad	82
H + Hd	57
FK	30

Factor II (Ror II)

Ego-Reality Integration

FLR (Form-level rating)	80
Number FLR 2.5 or higher	74
M	72
O	55
Number FLR -1.0 or lower	-50
FM	42
K + KF	-13

Factor III (Ror III)

Anxious Emotionality

W	66
Number Different Content Categories	62
Fm + mF	47
CF + C	44
Number Monsters	42
O-	41
Number Rejections	-40

Factor IV (Ror IV)

Socialized Responsiveness

Response Time	-51
Fc + cF	47
Reaction Time	-43
P	41
FC' + C'F	30
FC	30
Fk + kF	25

Achievement Attitudes Test Matrix

In the Achievement Attitudes Test, the child was required to indicate his preference between pairs of statements, one of which was more school or learning oriented than the other. This instrument yielded three factors, accounting for 18% of the total variance. As shown in Table 6, the first factor, Routine Academic Concern (Ach I) essentially conveyed the picture of the child who accepts school-oriented tasks, such as doing homework, in preference to play activities. Also noted here was a preference for routine tasks rather than more active, exploratory learning. Two of the test items (#10 and #11) designed to elicit the subtle distinction between passive and active learning behaviors had moderate to low negative loadings on this factor. In other words, children who selected the more desirable alternative when it was clearly the only school-related one (e.g., #7 - Do homework vs. watch TV) tended to select the less challenging task when the question presented a choice of two school activities (e.g., #11 - Review work vs. learn new things).

The second factor, Responsibility for Learning (Ach II) incorporated more self-directed activity than Ach I, with acceptance of the consequences as due to one's own efforts. Included here was an item related to delay of gratification, a quality which also involves self-direction and control.

The final factor, Anxious Striving (Ach III) similarly indicated acceptance of responsibility accompanied, however, by worry and concern over the standards of one's performance. Positive responses to items dealing with projected goals (#19, #24) though represented by low loadings, especially in the former case, suggested that this worry was reality-based and concerned with immediate obligations.

Semantic Differential Scale Matrix

The analysis of the Semantic Differential Scale, given in Table 7 revealed that evaluation, activity, and potency emerged as the main forces that determined the factor structure and accounted for 39% of the total variance.

The Activity (Sem I) factor extended across all six concepts rated, implying that characterizing concepts along an "activity-passivity" dimension was a consistent tendency and

Table 6

Factors from the Achievement Attitudes Test:
Items and Loadings
(All decimal points omitted)

Factor I (Ach I)

Routine Academic Concern

Item No.		
3[a]	Smart in school vs. Good in sports	47
15	Homework vs. No homework	45
17	Talk on science vs. Sing together	44
12	Buy a book vs. Go to the movies	42
10	Work in library vs. Work in reader	-33
7	Do homework vs. Watch TV	29
1	Go to museum vs. Go to park	27
11	Learn new things vs. Review work	-24

Factor II (Ach II)

Responsibility for Learning

Item No.		
5	Work hard vs. Hear jokes	49
6	Read about long time ago vs. Make something	41
18	Blame self vs. Blame teacher for failure	41
8	Try myself vs. Have teacher help me	38
4	Get $1.50 at end of week vs. Get $1.00 today	31
2	Learn how TV works vs. Make model airplanes	29

Factor III (Ach III)

Anxious Striving

Item No.		
21	Worry about correctness vs. No worry	46
23	Anxious about test vs. Take it as it comes	45
14	Feel bad about poor marks vs. It's O.K. if pass	43
13	Get best marks vs. Have lots of friends	39
24	Go to college vs. Get a job	36
22	Consult dictionary vs. Ask teacher	30
16	Saying "I don't know" vs. Guess	27
9	Spend more time for correctness vs. Finish work quickly	26
20	Good mark due to self vs. Teacher	21
19	Certainty about good job in future vs. Uncertainty	17

---

[a] Items are paraphrased, giving first the choice in each pair which was considered more achievement-related and therefore assigned the higher score. Complete text of items and scoring are given in Appendix K.

Table 7

Factors from the Semantic Differential Scale: Items and Loadings (All decimal points omitted)

Factor I (Sem I)		Factor III (Sem III)	
Activity		**Academic-Evaluative**	
Mother (A)[a]	67	Schoolwork (E)	76
Schoolwork (A)	57	Reading (E)	70
Teacher (A)	56	Teacher (E)	56
Father (A)	55	Schoolwork (P)	37
Reading (A)	54		
Me (A)	35		

Factor II (Sem II)		Factor IV (Sem IV)	
Potency		**Persons-Evaluative**	
Mother (P)	69	Mother (E)	70
Me (P)	63	Father (E)	61
Teacher (P)	54	Me (E)	43
Reading (P)	50	Father (P)	38

---

[a] Each of the six concepts used was given three scores, one for each meaning dimension tapped by the sets of adjective scales. These dimensions are identified by the following code:

A - Activity P - Potency E - Evaluative

apparently an important frame of reference in viewing the world. Of the salient items on this factor, Mother, Teacher, Schoolwork received the strongest loadings and Me, the weakest.

The Potency (Sem II) factor incorporated four concepts and, therefore, to a lesser extent, also demonstrated the unifying power of a meaning dimension. Again, Mother received the highest loading for this factor as well as for the Persons-Evaluative factor discussed below.

The evaluative dimension split into two factors, one relating to the academic area, Academic-Evaluative (Sem III) and one relating to significant persons, Persons-Evaluative (Sem IV). In each case one potency score was included, Schoolwork on Sem III and Father on Sem IV, both with the weakest loadings in the series suggesting, nevertheless, that the determination of "strongness" for these two concepts was allied to the judgment of "goodness."

In summary, the results for this population of young children were consistent with Osgood's theoretical formulation of the major dimensions of meaning.

Self-Appraisal Scale Matrix

The analysis of the Self-Appraisal Scale identified four factors: Social Competence (Sel I), Academic Competence (Sel II), Personal Competence (Sel III) and Nonintellectual Competence (Sel IV), accounting for 26% of the total variance. The scale items that defined each factor are presented in Table 8.

A set of unquestionably desirable qualities, likely to elicit approval and good relations with others, made up the Social Competence factor (Sel I). In contrast, all but two of the undesirable traits that were included in the scale appeared on a separate factor Personal Competence (Sel III). The direction of the scoring was such that lack of a negative characteristic was given the higher score and therefore this factor also represented positive self-appraisal with regard to personal qualities. The highest loading somewhat surprisingly appeared for the adjective "careless."

Table 8

Factors from Self-Appraisal Scale: Items and Loadings (All decimal points omitted)

Factor I (Sel I)

Social Competence	
Liked by other children	53
Polite	47
Big help at home	46
Full of fun	44
Full of questions about new things	43
Honest	39

Factor II (Sel II)

Academic Competence	
Going to do well	52
Trying my best	52
Hard worker	51
Neat	48
Nice-looking	43
Smart in school	34

Factor III (Sel III)

Personal Competence	
Careless[a]	60
Pest[a]	48
Bad[a]	48
Sad[a]	46
Lazy[a]	42
Shy[a]	33

Factor IV (Sel IV)

Nonintellectual Competence	
Nervous[a]	41
Good at making things	39
Very good in art	36
Lucky as others	35
Good in sports	30
Scared to take chances[a]	21

---

[a] The positive loadings for negative qualities resulted from the scoring procedure which assigned high scores to less of a negative quality as well as to more of a positive quality (See Appendix J).

Academic Competence (Sel II) included not only the expectation of doing well but also working hard and trying one's best to achieve this goal. These three components had the highest loadings. In contrast, just being "smart in school" had the lowest loading of the salient items on this factor. Positive appraisal of one's physical appearance also went along with high self-ratings in the academic sphere. The final factor Nonintellectual Competence (Sel IV), combined competence in such areas as art and sports with the qualities of not being nervous or scared.

School Behavior Rating Scale Matrix

Three factors, which accounted for 59% of the total variance, emerged in the analysis of the School Behavior Rating Scale and are shown in Table 9. Two of the factors from this matrix of teacher ratings were comparable to two obtained from the Self-Appraisal Scale matrix, based on self-ratings. The first factor here, Academic Effort (Beh I) represented strong academic motivation, incorporating positive, goal-directed behavior which paralleled the Academic Competence (Sel II) factor from the Self-Appraisal Scale, both even including "neat" appearance. The Personal Qualities (Beh III) factor from this matrix was composed of temperamental and affective items similar to the Self-Appraisal Personal Competence (Sel III) factor.

The remaining factor from the School Behavior Rating Scale, Conformity to Authority Demands (Beh II) seems best described as the extent to which the child adapts his behavior to the rules set down by teacher and school, even to the point of unquestioning submission. This observation was highlighted by the negative loading of the item "Submissive; accepts authority without question" on Beh II which resulted from the teachers' view of this behavior as positive while the scoring value that had been assigned treated it as a negative behavior in the same way as the more clearly unfavorable items, such as, "gets angry; gets into fights."

Clinical Appraisal Scales Matrix

The final matrix was based on the Clinical Appraisal Scales which integrated all the psychological material. Three broad factors, accounting for 51% of the total variance, were obtained in this analysis and are presented in Table 10.

Table 9

Factors from School Behavior Rating Scale:
Items and Loadings
(All decimal points omitted)

Factor I (Beh I)

Academic Effort

Item No.		
5[a]	Concerned with doing well	81
14	Does more than required	79
19	Eager to succeed	79
18	Plans carefully before answering	76
10	Curious; eager to learn	75
22	Contributes to class discussion	73
1	Careful and neat in work	71
26	Alert; practical	71
6	Dependable	70
16	Reads during free time	64
8	Attentive	63
9	Gives up if task is difficult[b]	60
13	Neat and clean in appearance	57

Factor II (Beh II)

Conformity to Authority Demands

Item No.		
25	Gets angry; gets into fights[b]	77
20	Sullen, resists authority[b]	75
23	Restless; fidgets[b]	69
7	Speaks out of turn[b]	64
24	Seeks attention; requires reassurance[b]	63
11	Good relationship with teacher; respects authority	62
15	Submissive; accepts authority without question[c]	-59

Factor III (Beh III)

Personal Qualities

Item No.		
17	Passive; lethargic[b]	65
4	Cheerful; friendly	64
2	Well-liked by other children	63
12	Fearful; tense[b]	62
3	Listless; easily fatigued[b]	55
21	Overanxious about work[b]	37

---

[a] Complete text of items and scoring procedure appears in Appendix R.

[b] The positive loadings for negative behaviors and traits, resulted from the scoring procedure which assigned high scores to less of a negative behavior as well as to more of a positive behavior. (See Appendix R).

[c] "Submissive; accepts authority without question" was also considered a negative behavior in the scoring procedure but its minus loading here indicated that the teachers considered it a positive quality.

Table 10

Factors from the Clinical Appraisal Scales: Items and Loadings (All decimal points omitted)

Factor I (Clin I) Emotional Disturbance		Factor II (Clin II) Self-Realization	
Amount of Anxiety	76	Ideation	64
Degree of Emotional Disturbance	75	Need Hunger	51
Maladaptiveness of Anxiety	66	Strength of Self-Image	50
Amount of Hostility	66	Perceptual-Motor Impairment	-50
Positiveness of Perception of Authority	-62		

Factor III (Clin III) Effective Controls	
Amount of Control	67
Reality Orientation	63
Overtness of Hostility	-59
Effectiveness of Control	58

The first, an Emotional Disturbance (Clin I) factor, was defined by the specific ratings for anxiety and amount of hostility, as well as negative perception of authority. As would be anticipated, the judgment of degree of emotional disturbance also loaded here.

The qualities incorporated in the Self-Realization (Clin II) factor were ideation, with the highest loading, followed by expression of basic needs, good self-image, and lack of difficulty in the perceptual-motor area. This factor thus combined positive attributes in the cognitive, perceptual, and affective domains.

Factor Clin III, Effective Controls was characterized by the capacity to regulate behavior to reality demands. The items, Amount of Control and Reality Orientation received the highest loadings. It is of interest to note that while Amount of Hostility loaded on the Emotional Disturbance (Clin I) factor, Overtness of of Hostility carried a minus loading on Clin III. Apparently the ability to inhibit the open expression of hostility was viewed as an aspect of control.

Summary

The 30 factors described above, derived from the eight matrices, incorporated the psychological variables in the cognitive, affective, motivational and attitudinal domains. These 30 factors, plus specific scores and ratings obtained from the medical examination and home interview, were used as dependent variables in the analysis of variance to test for achievement and sex differences and their interaction. The results of this analysis are presented in the next chapter.

CHAPTER 4

DIFFERENCES IN PSYCHOLOGICAL AND PHYSICAL ATTRIBUTES BETWEEN ACHIEVEMENT AND SEX GROUPS

The Eight Hypotheses

The statistical treatment called for a 2 x 2 factorial design for testing achievement, sex and interaction effects. In order to perform the analyses of variance at the first-order factor level, it was necessary to obtain a new set of scores for every child, one for each of the 30 factors that replaced the 205 scores initially obtained in the assessment of the psychological variables. In addition to the 30 psychological factor scores,* specific scores and ratings from the medical examination were also used to test the hypothesis concerning physical differences.

The results are given separately for each of the eight hypotheses presented in Chapter 1. The factors considered to have the greatest bearing on each hypothesis have been grouped under that hypothesis for discussion. Home background variables for which no hypotheses had been advanced are treated separately in Chapter 5.

In view of the large number of variables, it was decided to consider a difference statistically significant only if it reached the .01 level of confidence. This served to guard against spuriously "significant" results and to cast up more robust relationships. Although differences between boys and girls were included in each table, they are discussed only under Hypothesis 7 which deals with sex and interaction effects.

Since the F ratios presented in the tables indicate only whether or not the means in question may be considered as equal in the population, significant F values were transformed to point biserial correlation coefficients in order to examine the magnitude of the relationship between the variables under consideration and achievement or sex, treated as dichotomies (19). These correlations are given in the tables below the corresponding F values. Positive correlations mean that the direction of the difference supported the hypothesis, namely, that the high achievers were superior to the low achievers or that girls were superior to boys. Negative correlations mean that the direction of the difference was contrary to the hypothesis.

---

*Each factor score was a weighted composite of the subject's scores on the items loading the factor. The item weight was its loading (including sign) on the factor, divided by its SD.

The reader is reminded that the means and standard deviations for all the original scores are in the appropriate appendices.

Hypotheses 1: High achievers are superior to low achievers in cognitive functioning, particularly in convergent thinking abilities.

Table 11 presents the analysis of variance results for the six factors considered to be relevant to this hypothesis. In the main, the data supported the hypothesis. The high achievers were significantly superior to the low achievers on the factor scores which measured Perceptual-Conceptual Accuracy (Cog I), Nonverbal Creative Production (Cog II) and Linguistic Complexity (Cog III). There were no significant differences between the two groups in Response Speed (Cog IV), Verbal Divergent Production (Cog V), and Conventional Productivity (Ror I).

The predicted superiority of the high achievers in convergent thinking, both verbal and nonverbal, was upheld by the large difference for Cog I, the factor which included tasks that required knowledge of correct answers and ability to express them. Some of the tasks called into play higher level cognitive functions such as organizing, generalizing and conceptualization.

Certain fundamental skills which form the substratum for cognitive functioning also appeared here, including perceptual accuracy, memory, attention and language usage. As already noted in Chapter 3, the qualities tapped in the Cog I factor resemble closely the abilities measured in a verbal intelligence test and also the skills needed for achievement in school. It was

Table 11

Cognitive Factors:
F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

	Source of Variation		
Factor	Achievement	Sex	Interaction
Perceptual-Conceptual Accuracy (Cog I)[a]	291.3** .80[b]	4.0	1.9
Nonverbal Creative Production (Cog II)	16.1** .30	7.6* -.21	1.7
Linguistic Complexity (Cog III)	10.1* .24	1.5	0.4
Response Speed (Cog IV)	0.2	0.2	3.5
Verbal Divergent Production (Cog V)	0.0	2.3	0.4
Conventional Productivity (Ror I)	0.0	2.5	2.1

---

* $p < .01$ ** $p < .001$ df 1/156

[a] Letter code and number in parentheses identify the matrix and factor number as cited in Chapter 3.

[b] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed differences supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

no surprise, therefore, that the high achievers were significantly distinguished from the low achievers on this factor.

A quality of cautiousness seemed to be bound up with cognitive efficiency since Cog I also included scores obtained in two rather different situations in which the high achievers demonstrated a greater degree of reflectiveness and control, first by not checking answers they did not know in a test set up to encourage responding, and second, by more frequently using a neutral scale position rather than extremes in expressing judgments. These results substantiated similar findings for previous studies preliminary to this investigation (26, 27) and were consistent with other findings of this study relating to control that are discussed under Hypothesis 2.

In the Drawing Completion Task which defined Cog II, where children could express their own imaginative and creative ability, the high achievers exceeded the low. Stress is placed here on the fact that these qualities emerged in a nonverbal situation. This factor reflected not only certain flexibility elements of divergent production and qualities of creativity but also complexity of elaboration and relevance to stimulus. The latter aspects may be in a class with other high level cognitive abilities noted above for Cog I which also differentiated high and low achievers.

One purely verbal factor in which the high achievers scored significantly better than the low achievers was Linguistic Complexity (Cog III). Here the scoring emphasis was not on correctness but on the ability to use sentences to express relationships. The differentiation of time sequences and verbal planning were also measured in the scores that made up this factor. According to Bernstein (10) and others who have espoused his point of view, lower-class language is less apt to incorporate complexity and to use adequate planning. It would seem from these data that there is variability in language facility within the lower class and that lower-class children who can command well-planned and embedded sentences are more likely to be the ones who achieve in school. It should be emphasized, however, that this factor was distinguishable from the first cognitive factor (Cog I) on which the most clearly school-related variables loaded.

The high achievers did not differ significantly from the low achievers in Verbal Divergent Production (Cog V) based on a task which required giving varied concepts in response to a verbal stimulus where there was no one correct answer. The two groups were also similar in their verbal responsiveness to perceptual stimuli, Conventional Productivity (Ror I). Thus, though the two groups were significantly different on the predominantly convergent tasks in Cog I, they did not differ significantly in responding verbally with varied ideas and concepts in an open-ended situation. This kind of divergent production has received relatively little attention in the school curriculum and in conventional intelligence tests.

With respect to reaction time, as well as overall time needed for the completion of responses, Response Speed (Cog IV), the two achievement groups were not differentiated. Also included here was amount of talking, more talking being associated with shorter time scores. The similarity of the achievement groups on this factor was consistent with the finding that they did not differ in oral verbal productivity in two other factors (Cog V and Ror I).

The statements made thus far in discussing Hypothesis 1 merely indicated that the two achievement groups did or did not differ significantly with respect to certain cognitive characteristics. Where significant differences were observed, it was of interest to be able to specify the degree of relationship of these characteristics to achievement status using correlations derived from the F ratios.*

The highest correlation (.80) was between achievement status i.e., membership in either the high or low achieving group, and the Perceptual-Conceptual Accuracy (Cog I) factor. Since this factor included convergent thinking abilities, its high correlation with achievement status supported the prediction that the achievement groups would be especially differentiated in these abilities.

---

*All correlations reported in this section are point biserial r's; correlations over .21 are significant at the .01 level, df 158.

Significant correlations were also noted for Nonverbal Creative Production (.30) and Linguistic Complexity (.24). It is interesting that complexity of language structure, where conformity to standard usage was not considered, had only a modest correlation with achievement in comparison to the language and other items in Cog I where correctness was important. For the other cognitive factor that incorporated some divergent abilities, Conventional Productivity, and for Response Speed, the correlations with achievement were not significant.

Hypothesis 2: High achievers excel in aspects of ego strength.

The results presented in Table 12 gave substantial support to the ego strength hypothesis with the high achievers significantly exceeding the low achievers on four of the five factors considered relevant. The four factors were Self-Realization (Clin II), Effective Controls (Clin III) Ego-Reality Integration (Ror II) and Optimism (Mot II). On the Socialized Responsiveness (Ror IV) factor, the high and low achievers were not differentiated.

The Self-Realization factor illustrated the fusion of affective and cognitive components in the behavior of the high achievers. They had relatively strong and positive self-perception and were able to give their own ideas and to express basic needs such as achievement, recognition, and independence. In addition, they could respond to the perceptual world more accurately.

While the high achievers were more able to draw upon their inner resources, they also evidenced the capacity to exercise control and to cope more effectively than the low achievers with feelings of hostility and anxiety (Effective Controls, Clin III).

Two other factors, grouped for this discussion under the rubric of ego strength, came from the analysis of the Rorschach. The Ego-Reality Integration (Ror II) factor incorporated scores (M, FM, O and form-level ratings) that indicate an ability to give well-organized and accurately perceived responses, effectively integrating inner impulses and outer reality. This Rorschach factor reinforced the observations made for the two clinical ratings factors discussed above which also gave significant differences by achievement.

Table 12

Ego Strength Factors:
F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

	Source of Variation		
Factor	Achievement	Sex	Interaction
Self-Realization (Clin II)[a]	61.3** .52[b]	0.9	0.02
Effective Controls (Clin III)	22.3** .33	0.5	9.4* -.22
Ego-Reality Integration (Ror II)	13.8** .28	0.2	0.0
Socialized Responsiveness (Ror IV)	4.1	1.7	0.3
Optimism (Mot II)	13.3** .28	1.1	0.6

$^{*}p < .01$ $^{**}p < .001$ df 1/156

[a] Letter code and number in parentheses identify the matrix and factor number as cited in Chapter 3.

[b] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed differences supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

The Socialized Responsiveness (Ror IV) factor illustrated a somewhat different aspect of ego strength in which the achievement groups did not differ significantly. Here the stress was less upon one's own impulses and more upon an outer-directed social sensitivity. Both groups were able to produce reasonable and acceptable concepts and to think along popular and conventional lines. The tendency to give more popular responses was associated with quicker reaction and response times, speed also being a "popular" characteristic rewarded in our culture.

The last factor, Optimism (Mot II), resulted from the clustering in the motivational-attitudinal matrix of several scores that revealed a positive and hopeful outlook. This factor was interpreted as being related to ego strength. The high achievers scored significantly better here being more likely to tell stories in which events turned out all right, adults were kind and helpful, and success was anticipated.

The magnitude of the relationships between the ego strength factors and achievement group membership ranged from .28 to .52. The Self-Realization factor correlated most highly with achievement (.52), perhaps reflecting the presence in this factor of a rating for Ideation. Significant correlations with achievement were also obtained for Effective Controls (.33), Ego-Reality Integration (.28) and Optimism (.28). On the other hand, the relationship between achievement group membership and Socialized Responsiveness was negligible.

Hypothesis 3: High achievers appraise themselves more positively.

The analysis of variance results for the four factors which emerged from the Self-Appraisal Scale were all relevant to the above hypothesis and are presented in Table 13. On three different and distinct aspects of the self, namely, Personal Competence (Sel III), Academic Competence (Sel II) and Social Competence (Sel I), the high achievers rated themselves significantly better than the low achievers rated themselves. With respect to these areas, the high achievers felt that they were hard workers, who were going to do well and that they were smart in school (Sel II); that they were polite, honest, liked by

Table 13

Self-Appraisal Factors: F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

	Source of Variation		
Factor	Achievement	Sex	Interaction
Personal Competence (Sel III)[a]	41.5** .45[b]	4.9	0.3
Academic Competence (Sel II)	16.2** .31	0.1	0.3
Social Competence (Sel I)	9.3* .24	0.6	0.1
Nonintellectual Competence (Sel IV)	1.5	0.5	1.3

---

* $p < .01$ ** $p < .001$ df 1/156

[a] Letter code and number in parentheses identify the matrix and factor number as cited in Chapter 3.

[b] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed difference supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

other children (Sel I); and also that they did not have negative personal qualities such as being careless or bad or lazy (Sel III).

These findings were supported by two other observations. The mean of the clinicians' ratings on strength of self-image was higher for the high achievers than for the low achievers (Appendix P). Similarly, the psychologists, using the Test Behavior Schedule, rated the high achievers as showing more positive attitudes towards their own performance than the low achievers (Appendix Q). The two achievement groups were not differentiated in their self-appraisal for Nonintellectual Competence (Sel IV) which covered such activities as art, sports, and manual work.

The highest correlation with achievement status occurred for the Personal Competence factor (.45) and not, as would be expected, with Academic Competence (.31), emphasizing the importance to learning of good self-image with respect to personal qualities. The correlation of achievement status with Social Competence was .24, that with Nonintellectual Competence was not significant.

Hypothesis 4: High achievers show greater motivation and effort in academic areas.

The results for the seven factors considered in relation to this hypothesis are shown in Table 14. There were significant differences between the high and low achievers on five of the seven factors: Academic Effort (Beh I), Academic Interests (Mot IV), Curiosity Behavior (Mot III), Responsibility for Learning (Ach II), and Anxious Striving (Ach III).

The high achievers, in comparison to the low achievers, were seen by their teachers as more often exhibiting eagerness to learn and to succeed, doing more than was required, as well as being careful, practical and dependable (Beh I). On the Academic Interests factor and on Curiosity Behavior, the high achievers scored appreciably higher than the low. The former factor encompassed not only evidence of academic interests and activities during free time but also children's aspirations and goals, as well as the educational implications of family activities.

Table 14

Academic Motivation Factors:
F Ratios and Significant Correlations for Achievement,
Sex, and Interaction Effects

Factor	Source of Variation Achievement	Sex	Interaction
Academic Effort (Beh I)[a]	111.0** .64[b]	2.6	0.0
Academic Interests (Mot IV)	77.9** .57	0.4	4.1
Curiosity Behavior (Mot III)	8.5* .23	0.4	0.3
Achievement Motivation (Mot I)	4.0	0.1	0.2
Responsibility for Learning (Ach II)	10.3* .24	11.2** .25	0.2
Anxious Striving (Ach III)	7.0* .21	0.0	2.3
Routine Academic Concern (Ach I)	1.5	0.0	0.0

---

* $p < .01$ ** $p < .001$ df 1/156

[a] Letter code and number in parentheses identify the matrix and factor number as cited in Chapter 3.

[b] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed difference supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

Curiosity Behavior included the spontaneous asking of questions and handling of materials in the test situations.

Two other factors, both derived from the Achievement Attitudes Test, Responsibility for Learning and Anxious Striving, significantly differentiated the high from the low achievers. The Responsibility for Learning (Ach II) factor had some items similar to the Academic Effort (Beh I) factor discussed above, but also included items relating to deferred gratification and to working on one's own with acceptance of blame for failure rather than projection of blame on to the teacher. The Anxious Striving (Ach III) factor combined an affective component of worry and anxiety with a strong desire for academic success; the high achievers more often described themselves as worrying about making mistakes and feeling bad about getting a low mark. At the same time, the high achievers more often chose college over getting a job after high school while expecting to get a good job eventually, suggesting that their worry was appropriate to their present problems and that they were more optimistic about the future than the low achievers.

On two factors, Routine Academic Concern (Ach I) and Achievement Motivation (Mot I), the high and low achievers were not differentiated significantly. In both groups, there were children who emphasized work-oriented activities which they knew were the "right" thing to do, e.g., finishing homework before watching television, while also selecting the less challenging alternative when presented with a choice of learning tasks, e.g., preferring to work in their readers rather than look something up in the library (Ach I).

Also, in both achievement groups, there were children who told stories, wrote compositions and answered interview questions in a way which indicated that they wanted to achieve and to learn and were concerned about these needs (Mot I). The high achievers, however, seemed more able to implement their wishes by assuming the responsibility and effort required for achievement, as attested to by the significant differences noted earlier (Beh I, Ach II, Ach III).

The relationship between each of these factors and achievement level may be summarized as follows: the highest correlation with achievement status was for Academic Effort (.64) derived from teacher ratings, closely followed by Academic Interests (.57), Responsibility for Learning (.24), Curiosity Behavior (.23) and Anxious Striving (.21). The correlations with Achievement Motivation and Routine Academic Concern were not significant.

It may be noted from the relative magnitude of the correlations with achievement, that the teachers see the high and low achievers as more clearly differentiated in academic concern than the children's own ratings of their attitudes toward school learning or their projected stories would indicate.

Hypothesis 5: High achievers have more positive attitudes toward school and authority figures and conform more to adult demands.

The five factors examined in relation to this hypothesis are specified in Table 15. One of the factors, Conformity to Authority Demands from the matrix of teacher ratings, gave a highly significant difference in favor of the high achievers supporting one aspect of the hypothesis. The teachers saw the high achievers to a significantly greater degree than the low achievers, as respecting and submitting to authority, not getting into fights, not being sullen or restless, and in general not disturbing in the classroom.

Four of the factors relevant to the hypothesis were derived from the Semantic Differential Scale which measured feelings and attitudes toward authority figures (Mother, Father, Teacher), school activities (Reading, Schoolwork), and the self (Me). While the overall tenor of the ratings for all the concepts on the Semantic Differential was positive, on two factors, Academic-Evaluative (Sem III) and Potency (Sem II), the low achievers expressed significantly more favorable attitudes than the high achievers, contrary to the hypothesis. Specifically, the low achievers rated Schoolwork, Reading, Teacher more positively on the evaluative scales than did the high achievers; they also rated Mother, Teacher, Me, Reading as being more powerful. This result confirmed the findings of a previous study (39) and may be interpreted as was done in that instance to mean that the high achievers felt freer to express critical judgments about school-related concepts, and to a certain extent about significant

Table 15

School and Authority Attitude Factors: F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

Factor	Source of Variation		
	Achievement	Sex	Interaction
Conformity to Authority Demands (Beh II) [a]	41.5** .45[b]	0.2	2.4
Academic-Evaluative (Sem III)	11.4** -.26	0.2	3.1
Potency (Sem II)	7.7* -.22	1.7	0.3
Activity (Sem I)	2.4	0.4	0.4
Persons-Evaluative (Sem IV)	0.0	0.6	0.1

---

* $p < .01$ ** $p < .001$ df 1/156

[a] Letter code and number in parentheses identify the matrix and factor number as cited in Chapter 3.

[b] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed difference supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

people, while the low achievers, perhaps out of defensive needs, gave more globally favorable evaluations.

The two groups did not differ in the extent to which they attributed dynamic qualities to the six concepts on the Activity (Sem I) scales. The fact that the Persons-Evaluative (Sem IV) dimension for Mother, Father, Me did not differentiate suggested that the criticalness of the high achievers did not extend to the very fundamental judgments of "good-bad" with reference to parents and self.

It should be noted that the evaluative scales are most relevant to the measurement of attitudes, with the potency dimension also carrying affective connotations for young children rating these concepts. The activity dimension seemed to be of less importance than the others in the assessment of meaning here, at least as far as differences between high and low achievers were concerned.

In addition to the factors considered, there were several other indications that the high achievers had more positive relationships to authority. The clinicians' rating for the positiveness of the child's perception of authority was slightly higher for the high achievers than for the low achievers (Appendix P), with the high achievers more often viewing authority figures as supporting or helpful rather than punitive or threatening.

Another measure of the child's relationship to authority came through in the Curiosity Behavior (Mot III) factor, discussed under Hypothesis 4. The extent to which the child felt free to ask questions and to handle materials in test situations may be considered an indication of his comfortableness with adults and the high achievers had more positive scores on this factor. Of interest here was the additional fact that the children who reacted positively in a relationship with an adult more often projected a negative view of peers in the stories they told. Is it that the high achievers seek positive relationships with adults at the expense of good relationships with peers?

When the F values which were used to test this hypothesis were transformed to point biserial correlations, it was found that Conformity to Authority Demands had a substantial positive correlation with achievement status (.45). Although the correlations between achievement status and both the Academic-Evaluative and Potency factors were significant, they were relatively small and negative (-.26 and -.22). These expressed attitudes apparently revealed surface feelings that were not meaningfully related to school performance.

In summary, it seems that while high achievers were more critical in their expressed attitudes toward school and authority figures than the low achievers, they probably have better underlying relationships with adults and can more successfully mold their behavior to conform to adult expectations.

Hypothesis 6: High achievers exhibit better emotional health.

The hypothesis was tested by three factors which emerged from different sources: the School Behavior Ratings, the Clinical Ratings, and the Rorschach. Table 16 presents the analysis of variance results for the factors, two of which supported the hypothesis: Personal Qualities (Beh III) and Emotional Disturbance (Clin I).

The high achievers were rated by their teachers as possessing positive temperamental and emotional qualities, such as cheerfulness and friendliness; as being well liked by other children; as not being overanxious or fearful; and as generally being pleasantly outgoing (Beh III). The Emotional Disturbance (Clin I), factor based on clinicians' ratings of dimensions such as anxiety and hostility also significantly differentiated the high and low achievers, with the high group judged as exhibiting less of the negative qualities and as handling them more adaptively.

On the third factor considered here, Anxious Emotionality (Ror III), there was no significant achievement difference. Both high and low achievers gave responses to the Rorschach which were indicative of anxiety. It should be noted that though no difference emerged in this factor which was based entirely on specific scores, the higher level of integrative interpretation by the clinicians, giving attention to the way in which the child coped with anxiety, did find the high achievers less disturbed (Clin I).

Table 16

Emotional Health Factors: F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

Factor	Source of Variation		
	Achievement	Sex	Interaction
Personal Qualities (Beh III)[a]	25.5** .36[b]	0.0	1.8
Emotional Disturbance (Clin I)	8.2* .22[c]	8.0* .21[c]	0.6
Anxious Emotionality (Ror III)	0.0	9.0* .23[c]	1.8

---

* $p < .01$ ** $p < .001$ df 1/156

[a] Letter code and number in parentheses identify the matrix and factor number as cited in Chapter 3.

[b] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed difference supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

[c] In these instances the prediction was that the high achievers and the girls would show less of the undesirable qualities. The positive biserial correlations indicated that these predictions were supported.

As noted in other instances, it was the ratings by teachers that were most closely tied to demonstrated achievement in school, with a correlation of .36 between their evaluation of positive Personal Qualities (Beh III) and achievement status. There was also a significant, though low, correlation between clinical judgment of Emotional Disturbance (Clin I) and achievement (.22), with the expected association of better mental health and superior achievement functioning.

Hypothesis 7: Girls are superior to boys on the psychological variables investigated with interaction effects due to greater differences between the high and low achieving boys than between the high and low achieving girls.

The data on sex and interaction differences gave little support to the hypothesis. On only four of the 30 factors did significant sex differences appear and one was not in the expected direction. Similarly the one significant interaction effect was also in a direction opposite to prediction.

As hypothesized, girls were superior to boys on the Responsibility for Learning factor (Ach II in Table 14) with a positive correlation of .25 between this factor and sex. They, more than boys, indicated by their choices that they realized their own role in the learning process and the need to work hard. In the affective domain, the girls' responses gave evidence of greater emotional stability. The boys gave more responses indicative of anxiety and tension on the Rorschach and were also rated by the clinicians as showing more overall emotional disturbance. The correlations with sex of the two relevant factor scores (Ror III and Clin I in Table 16) were .23 and .21, respectively.

Contrary to the hypothesis, the boys were significantly superior to the girls in Nonverbal Creative Production (Cog II in Table 11). They showed greater ability to be creative in an open-ended drawing task, producing more complex and elaborated drawings with better fit to stimulus. The correlation with sex was -.21. It was noted that for five other cognitive factors, the direction of difference favored the boys though not to a statistically significant degree.

The one significant interaction effect occurred for the Effective Controls factor (Clin III in Table 12). Here, the difference between the high and low achieving boys was smaller than the difference between the high and low achieving girls, contrary to the hypothesis which was based on the expectation that the low achieving boys would be at the greatest disadvantage.

A striking observation was that none of the three factors derived from the teachers' ratings showed significant sex or interaction effects though one might have expected teachers to view the girls more favorably in school effort, classroom behavior and personal traits (Beh I, II, III). This is particularly noteworthy since these three factors were among those that differentiated the achievement subgroups most sharply.

In summary, girls and boys in the lower-class Negro group studied did not appear to be differentiated to any appreciable degree on the variables investigated though Negro boys are often considered to face greater difficulties than Negro girls.

Hypothesis 8: High achievers are superior in physical condition and in general health.

The physical condition of the children in this study was summarized by the pediatrician who, in addition to the usual observations made in a comprehensive medical examination, rated each child on a four-point scale for each of the following dimensions: Neurological Status, Nutritional Status, Sexual Maturation, Posture, Vitality, and Overall Medical Status. Some comments will be made on specific health data which were obtained, such as blood pressure, hemoglobin, vision, and hearing although these were not subjected to analysis of variance.

The hypothesis was not supported; the high and low achievers were not distinguished by their health status as may be observed from the F ratios presented in Table 17. There were three significant sex differences, with the girls being more mature in sexual development and also taller and heavier than the boys, a reasonable finding at the age of 10-1/2 years (girls - 126.7 months; boys - 126.2 months).

Table 17

Health and Physical Status Measures: F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

	Source of Variation		
Factor	Achievement	Sex	Interaction
Overall Medical Status Rating	1.4	3.0	0.0
Neurological Status Rating	2.7	0.0	0.2
Nutritional Status Rating	2.4	0.1	0.4
Sexual Maturation Rating	0.7	19.9** .33[a]	1.7
Vitality Rating	2.1	0.1	0.1
Posture Rating	6.1	0.0	0.2
Height	0.1	23.9** .36	0.5
Weight	0.0	19.8** .33	2.0

** $p < .001$ df 1/156

[a] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed differences supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

Some comparisons of data from this sample of lower-class Negro children with normative data may be of interest. Height and weight data reported by Bayley (6) for boys and girls between 10 and 11 years of age are shown below along with the means for the present sample of children separated into the four subgroups.

	Mean Height (in inches)	Mean Weight (in pounds)
High Achieving Girls	58.4	88.1
Low Achieving Girls	58.6	92.6
Norm Girls	55.9	81.0
High Achieving Boys	56.4	78.6
Low Achieving Boys	55.9	74.4
Norm Boys	55.5	82.8

It appears, then, that the girls in our sample were somewhat taller and considerably heavier than the norm; the boys only slightly taller but lighter than the norm. The girls were more variable than the boys in both height and weight (Appendix S). The obvious obesity of a number of girls was noted by the examining psychologists and the pediatrician; actually eight girls weighed over 130 pounds, close to a disease state, and eight girls between 110 and 129 pounds.

On a number of other physical characteristics that formed the basis for the pediatrician's ratings, the children, with very few exceptions, fell within the normal range. It should be recalled at this point that children with marked physical defects were not accepted in the sample. The mean for diastolic blood pressure was 69.9 mm. with a standard deviation of 9.5; the normal range falls between 50 and 90 mm. Pulse rate, admittedly an unstable measure, more indicative of the child's anxiety than organic illness, showed an unexpectedly wide but normal range in view of the examining situation, of 52 to 120 with a mean of 73.4 and a standard deviation of 11.9 in our sample. Hemoglobin, with a normal range of 11 to 15 at this age, gave a mean of 12.0, standard deviation of 0.9 for this sample.

Similarly, urine ph did not deviate for this group from the normal of 5 to 7 although albumin of 1+ to 3+ was detected in 16 of the children. The significance of this finding was unclear without further medical workup. The average vision for the poorer eye was 20/44. Since refractive correction generally would not be undertaken for better than 20/40 vision, this may be considered a good average visual acuity. Hearing was tested by audiometer and all except three children had normal hearing.

As already observed, there was no significant relationship to achievement for any of the medical ratings. This was also true for the measurements cited above.

Certain illnesses, such as asthma, allergies, rheumatic heart disease and bronchitis were noted by the pediatrician. He felt however that the instances of these illnesses had not resulted in disability for these children. Asthma was the most frequent illness, mentioned somewhat more often among the low achievers than among the high and more often among the boys than the girls. The other difficulties were about equally divided between the achievement groups, although there were a few more high achievers than low achievers for whom no health problem at all was noted.

Several qualitative observations were also obtained from the interview with the mother who was questioned about the child's early illnesses. As with the pediatrician, asthma was mentioned more often than any other specific illness; eight instances among the high achievers and 15 among the low achievers. The mothers were questioned, too, about perinatal events. No difference between the achievement groups was observed in the frequency with which they mentioned premature births or difficult labor. Mothers also mentioned heart murmurs, allergies, spinal menigitis and leg braces, but these were scattered instances, equally distributed among the good and poor achievers.

The pediatrician's general impression after examining all the children in the study was that they did not differ substantially in physical health from a largely middle-class private practice population. The mean values obtained tend to bear this out. The only apparent differences he noted were that severe and neglected dental caries were more widespread, and that a more passive demeanor and apparent lack of aggressiveness characterized the group.

Additional Data Analysis

Certain aspects of the findings for the psychological variables which were not discussed in the framework of the major hypotheses are presented here to fulfill several purposes: 1) to compare data from this sample with data from other populations when these were available, as with the WISC and the Rorschach; 2) to point out differences between the high and low achievers for items that are of particular psychological interest but were not considered specifically since they were included as part of the factor scores and 3) to introduce additional data not included in the factor analysis because there was little variability or because the occurrences were rare.

WISC Subtests

The WISC scaled subtest scores provide easy comparisons of this group of high and low achievers with the normative mean score of 10 (see Appendix A for means and SD's). The high achievers were consistently above the norm on all the verbal subtests and also on the performance subtests, with the exception of Block Design and Mazes. Their performance on the verbal tests was higher than on the performance tests, thus giving them an average verbal IQ of approximately 113 and a performance IQ of 98. The low achievers reacted in a similar pattern although their mean scores all fell below the norm of 10, one to two points lower on the verbal subtests and two to three points lower on the performance subtests. They achieved an average verbal IQ of about 89 and a performance IQ of about 81. The differences between performance and verbal IQ's were significant in both groups, for the good achievers, $t = 13.18$, $p < .001$; for the poor achievers, $t = 6.29$, $p < .001$. Thus, these findings, contrary to the prevailing view, showed greater deficiency in nonverbal than in verbal tasks. Similar results have been reported in other studies of Negro populations (62). Another observation, contrary to expectation, was the superior performance on the verbal tasks of the boys in comparison to the girls, for both the high and low achievers, though the sex differences were not significant at the .01 level.

Analysis of the subtest performance on the WISC yielded some other interesting observations. In the verbal subtests, the high achievers made their highest mean score in Vocabulary, followed by Comprehension; the low achievers did best on Comprehension, almost reaching the norm, followed by Digit Span. On the performance subtests, the high achievers did best on Picture Arrangement and the low achievers on Picture Completion. Both groups performed most poorly on Block Design and Mazes.

These findings highlighted the strengths and the weaknesses of children from this kind of background in comparison to the normative population. It was fairly clear that both the high and low achievers were alert to their surroundings, learning what they needed in order to cope with everyday tasks and problems; the high achievers, however, excelled particularly in verbal informational knowledge stressed in school. Both groups seemed to need perceptual training involving analysis and organization.

Rorschach

Based on the pattern of quantitative scores on the Rorschach, this sample of high and low achievers presented a picture that was representative of normal ten year old children (Appendix B). The high achievers gave, on the average, 20 responses to the Rorschach; so did the low achievers. The distribution of the location scores was typical, with approximately 35% W's and slightly over 55% in the two usual detail categories. Similarly, the determinant scores showed expected frequencies. On the average, the high achievers produced a little more than two M's; the low achievers, slightly under two M's, each group giving a somewhat higher number of FM responses than M responses, as would be expected. Over half of their responses were in the pure form category. At the other end of the psychogram, both the high and the low achievers gave, on the average, almost two color responses with a slightly higher mean for the CF+C than the FC category. The other determinant scores were scattered among the shading and small m categories.

With reference to content, the high achievers gave about 17% of their responses in the human category and the low achievers, about 13%, while both groups gave slightly over 50% of their responses in the animal category, comparable to the normal range. On the average, four additional content categories were used with high concentration on "monsters."

Each group gave approximately four popular responses and averaged slightly more than one good original response. Both groups spent on the average 30 seconds in giving a response, which is typical, but their reaction times were longer than usual (about 10 seconds for the high achievers and 8 seconds for the low achievers). The form-level rating for both groups was approximately 1.0, again corresponding to the ordinary manner of handling the Rorschach material.

From the quantitative analysis, this sample of children, both high and low achievers, did not deviate to any significant extent from the average scores published by Ames (2) or the summary of a typical Rorschach record of a healthy person described in Klopfer and Davidson (58).

A look at some of the extreme reactions rather than the average performance may be of value. For example, one high achieving boy gave 65 responses and one low achieving boy, 58 responses; the lowest number of responses was 6, equally distributed among the four subgroups with two children in each group. A low achieving boy gave 10 M responses, a high achieving boy gave 9, while 15 high achievers and 16 low achievers gave no human movement responses at all. Only two children did not have any M or FM responses but 19 high achievers and 20 low achievers did not give any color responses. Among the high achievers, three children, all boys, each gave over four small m responses, while only two low achievers, one girl and one boy, had as many as four small m responses. Fc+c was used at least once by 38 high achievers and 32 low achievers. Finally, 19 high and 14 low achievers rejected one or more cards. Thus, in range of reactions, as well as in means, the high achievers did not perform differently from the low achievers and the total sample was probably not too different from children in other populations.

An examination of the content of the responses, which probably reflects the quality of the child's life experiences, projected a quite different image. Responses such as the following were frequent and may serve to impart the flavor of the content:

> Card VIII - Looks like some wolves climbing up a tree and they are tearing the leaves off; (Q) they are climbing like from something that might hurt them, something like an eagle, that might claw them in the back or the elephant might trample them. (High Boy)
>
> Card X - Looks like a man and half of his body cut off, legs off; (Q) looks like they ate him this way; it feels like he was walking along and they jumped him and ate half of his body and if they get hungry again, they will eat the other half of his body. (Low Boy)
>
> Card V - A dead person with a flower on top of him; (Q) can't see his head; clothes are all messed up because somebody is trying to kill him. (High Girl)
>
> Card I - I see a butterfly and it has little buds around it and two bumps that almost look like eyes; (Q) it's getting ready to fly and it fell. (Low Girl)
>
> Card IV - Looks like a monster standing on his head; (Q) it's a man and he changed himself into a beast because he wanted to scare people to death because he looks like a horrible monster. (High Boy)

The impression that emerged was one of pervasive anxiety and insecurity. There was also present a sense of struggling to meet expectations, so overwhelming that it often became crippling. Many children seemed to suffer from a kind of depression; they were not childlike in their behavior, not laughing and talking freely as is characteristic of young children. Their self-esteem seemed impaired and though they accepted without question the standards that had been set up for them, they did not see the world as a good and reliable place. The examining psychologists all independently made spontaneous comments along the lines of the above statements. In many instances, they stressed the child's need for psychological help.

The characteristics described above were true to some degree of many children in both the high and low achieving groups. It will be recalled, however, that the high achievers were rated by the clinicians higher than the low achievers in effective controls and other ego strength variables. Another bit of evidence on this point came from the qualitative comments of the clinicians. For instance, one clinician noted that 47 high achievers used some form of intellectualized defense such as rationalization, obsessive-compulsive reactions, denial; only 31 of the low achievers used such defenses. Thus, the high achievers seemed to be able to cope more adequately with underlying anxieties.

Perceptual-Motor Performance - Bender Gestalt

Koppitz (59) published mean scores for school children five to eleven years of age. The mean number of errors (including rotation and nonrotation errors) for children aged 10 - 11 years was approximately 1.55 (SD = 2.00). This can be compared to the mean of 2.0 for the high achievers in this study (2.2 for girls and 1.8 for boys) and 4.6 for the low achievers (5.2 for girls and 4.1 for boys). (See Appendix C). The difference between the means of our two achievement groups was significant at the .01 level (t = 3.90) with the low achievers making considerably more errors than the high achievers. Although our total sample made more errors than the group used by Koppitz for normative purposes, the deficiencies were particularly marked for the low achievers.

The higher error scores of this sample of children were consistent with the relatively poor performance, especially of the low achieving children, on the Block Design subtest of the WISC, another kind of perceptual-motor task. Also, the clinicians' evaluations of the degree of perceptual-motor impairment using each child's total protocol, not only the Bender, gave the high achievers a mean rating of 1.55, showing slight impairment ("5" was severe impairment) and the low achievers a rating of 2.40. (See Appendix P). The difference between the mean ratings was statistically significant at better than the .001 level (t = 7.46). The clinicians were also asked to indicate the source of perceptual-motor impairment when present. They most often checked "emotional interference" as the reason rather than the other choices offered, "brain damage" or "developmental lag."

Motivational Items

The Achievement Need score and several related ones which appeared in the factor called Achievement Motivation (Mot I) were not discussed previously because the factor did not differentiate the achievement groups at the .01 level. These scores are, nevertheless, worthy of being examined closely because of widespread interest in achievement motivation and its salience for school performance.

The high achieving boys and girls obtained a mean Achievement Need score of 4.4 (out of 8); the low achievers' mean score was 3.4; the difference between the two groups was significant at better than the .001 level (t = 4.11). It is not possible to compare these results with published material since different methods have been used by investigators to obtain achievement motivation scores. In this sample of children, however, the high achievers exhibited a greater need to achieve than did the low achievers. This finding was consistent with the two Need for Knowledge scores, one obtained from the Story Telling Task (Appendix F) and the other from the Written Composition (Appendix M), where the high achievers also obtained somewhat higher scores. Curiosity behavior, related closely to the Need for Knowledge scores, was observed during the Object Sorting Task. There were 25 children who were curious enough to ask the examiner about the three unknown objects included in this task, 15 among the high and 10 among the low achievers.

Possibly allied to the drive to achieve was the Time Orientation score, obtained from the Story Telling Task (Appendix F) which reflected the extent to which the child was future oriented. Here, too, the high achievers showed higher scores, indicating that they were more future oriented than the low achievers; the difference between the means was significant at better than the .01 level (t = 3.28).

Goal Responsibility

There were a number of instances where items from the motivational-attitudinal domain were not included in the statistical analysis since the high and low achievers responded similarly. They are of sufficient interest to be considered here especially in comparison with responses to other questions.

For example, all but one of the 160 children said that they wanted to go to college in response to an interview question

(Question 12a, Appendix I). But responses to another question showed that over 90% of the high achievers and only a little over 71% of the low achievers thought they would actually get to college (Question 12b, Appendix I). To the question "what do you like best in school?" (Question 4, Appendix I), over 90% of the children in three of the subgroups said they preferred academic subjects to semi-academic or non-academic subjects; for the high achieving boys, the percentage was only 82.5.

All the children, without exception, blamed themselves when they got a bad mark rather then blaming others or some outside force (Question 8, Appendix I). In reference to a question (18b, Appendix I) that projected further into the future, however, the high achievers maintained this attitude of self-responsibility better than the low, more often indicating that they would blame themselves directly if they did not achieve their vocational goals (75% vs. 60%). On the other hand, almost 25% of the low achievers and only 5% of the high achievers mentioned impersonal though realistic forces, such as lack of formal education, for not achieving their goals.

While all the children said they wanted to go to college, more mothers of the high achievers than of the low said they would like the child to go to college (88% vs. 68%). About 43% of the mothers of the high achievers felt the child would get to college; only 12% of the mothers of the low achievers felt the same way. More of the mothers of the high achievers knew the difference between a vocational and academic high school (75% vs. 55%) and more visited the child's school more or less regularly (95% vs. 80%).

Although vocational aspirations of the children were used in the statistical analysis, appearing in the Academic Interests (Mot IV) factor, it was interesting to look at the actual vocations named by the children. The majority of the girls, from both the high and the low groups, chose teaching and nursing; 14 high girls wanted to become teachers and 12, nurses; 13 low girls wanted to become teachers and 12, nurses. The boys had a greater variety of choices with high achieving boys mentioning doctor, engineer, astronomer, mathematician, as well as a number choosing baseball or basketball player. Some low achieving boys also chose professions but many more low achieving than high achieving boys chose such occupations as conductor, detective, fireman and even one garbage collector.

Perception of Teacher

Two items gave some insight into the way the children viewed teachers. When asked the question (number 7, Appendix I) "what are the things that a good teacher does," many more of the high achievers than the low achievers (81% vs. 58%) said such things as "helps you," "gives you work," "gives homework every night," "requires neatness." On the other hand, a little over 40% of the low achievers and not quite 20% of the high achievers gave replies which were oriented to discipline or play rather than learning, such as, "doesn't holler," "doesn't scold," "does not give too much homework," "gives a free period," "let's us play."

The children's perception of teachers' preference for boys or girls was obtained indirectly during the Story Telling Task, when to Picture 3, depicting a teacher looking at a boy and girl sitting at their desks, the child was asked whether the teacher liked the boy or the girl better and why. The girl was said to be preferred by the teacher slightly more often than the boy by children in both achievement groups (21 high boys and 26 high girls, 20 low boys and 26 low girls), a pattern less favorable to the girls than might have been expected. Five children said the teacher liked both the boy and the girl. The reasons given for the teacher's preference were either because of "good grades" or "good conduct," grades being more frequently given by the children in all the four subgroups. It was interesting to note that 18 children, equally divided between the high and low achievers indicated that the teacher preferred the boy because he "needed help."

Incidental Observations

The Story Telling Task also yielded several other discrete bits of information. One was the child's comments about Negro people in the pictures or about the Negro problem in general. It will be recalled that the boy depicted in Picture 1 and the children in Pictures 2 and 3 were Negro. Among the high achievers, 14 children (7 boys and 7 girls) referred to someone in the pictures as being "Negro" or mentioned Negro - white conflict; only three children did so among the low achievers. Surprisingly, this was a very small proportion of the total group of 160 children. Most of the time, the children who gave such responses identified the child as "colored" or "Negro," but a few showed greater awareness of social issues. One response of the latter type is worth giving: A high achieving girl thought the boy in Picture 1 was a slave who was able to read a book and then she went on to say, "Well, it seems to me he's in school although I can't see any other children sitting by him.... he's thinking maybe of being a slavemaster himself though he is a Negro....he will be master of the white people and treat them as he's been treated ...."

One last item of interest from the stories was the fact that the violin in the TAT card, Number 1, was not recognized by 15 high achievers and 31 low achievers, again pointing up the particular deficiencies of the low achievers in specific informational knowledge.

Summary

In each of the basic domains tapped in this study, the high and low achievers showed some differences and some similarities. These will be briefly summarized.

The major differences occurred in basic cognitive skills and convergent thinking abilities; in ego strength, emotional stability, and self-competence; in the teachers' perception of their learning behavior and willingness to conform; in their expressed academic interests, curiosity, and directed achievement drive. In all these characteristics, the high achievers surpassed the low achievers to a statistically significant degree.

By contrast, the low achievers were more positive in their stated attitudes toward schoolwork and toward authority figures than the high achievers, possibly indicating a somewhat uncritical acceptance.

The high and low achievers were not distinguished significantly in general overall social responsiveness and social awareness. Both groups showed the capacity to react to stimuli in conventional ways, although the quality of their ideas and productions varied, and they produced verbal responses with the same ease in an open-ended situation. Also, at both achievement levels, children showed concern about doing well and desire to succeed, although many in both groups displayed a good deal of anxiety which might be likely to produce difficulty in fulfilling their aspirations. The high achievers, however, possessed more effective controls and coping mechanisms.

Both high and low achievers performed relatively poorly on motor-perceptual tasks (Block Design, Mazes, Bender) in comparison to their own level of verbal performance and in comparison to norms for these tasks. It was noted that their manner of handling certain verbal tasks, particularly the Rorschach, was typical of what one would expect for children of this age.

Finally, the high and low achievers were not distinguished in general health status or in physical characteristics such as height and weight.

There were few sex differences. In the emotional area, the boys were significantly more disturbed and anxious than were the girls. Girls' responses indicated that they assumed more responsibility for learning. The boys however, performed significantly higher in a nonverbal creativity task and, though not statistically significant, were somewhat higher than the girls on all the other cognitive abilities factors.

CHAPTER 5

THE CHILDREN'S FAMILIES

It will be recalled that the study was planned primarily to compare two groups of children differing in school achievement who were to be, however, homogeneous in socio-economic background. The children were selected from low-income Negro families living in a depressed area of Central Harlem, approximately five blocks East to West and 12 blocks North to South. Although no hypotheses had been advanced initially with regard to background characteristics, it was decided at the beginning of the study to conduct a home interview. Assessment was made of surface status factors and variables of personal interaction in the home which might differentiate the two achievement groups even though the entire sample encompassed a narrow range in social and economic level. (For the questions asked during the interview and the observation checklist, see Appendix T).

Participation in the Interview

The attitudes and interest shown by the families in relation to the interview warrant a brief comment at this point. Of the 170 families approached, only five refused to be interviewed, three among the high and two among the low achievers. The others were seen by the social worker who noted particularly the willingness of the parent or parent-substitute to provide the sought-for information wherever knowledge permitted. He reported that there was little resistance but, on the contrary, an eagerness to talk. Disputing the myth that lower-class parents are not inclined to communicate, these parents willingly gave their cooperation to a school-related project even though they understood that there was no immediate benefit to them or their children.

For the families of the 160 children used in this study, the informant was most often the mother, who responded in 141 cases; the grandmother, aunt and an older sister in 17 cases and foster-mother in two cases. The father was present during the interview in 21 cases but only 12 fathers contributed comments.

The interview was focused primarily on the present family situation rather than on events in the early years of the child's life although some retrospective data were obtained directly or incidentally in the course of the interview.

Background Status Variables

The findings for family status variables plus certain school items are shown in Table 18 in terms of percentages, separately for the four subgroups and for the total group. Some general descriptive observations will be made for the total sample in relation to previous studies of similar populations before analyzing differences among the subgroups. Subgroup differences will be discussed when analysis of variance results are reported at the end of the section.

Family Structure

The family structure for the children from this depressed urban environment, attending ghetto schools, varied considerably. It is generally known that many children from such backgrounds live in incomplete families. For the children in this sample too only 43.1% were reported to be living with both natural parents. While most of the children had mothers at home (87.5%), there were some homes without mothers; 11 children lived with their grandmothers, seven with an aunt or older sister, and two with foster-mothers. There was one family headed by a father but no mother.

In 49.4% of the cases interviewed for this study, no adult male was reported living in the household. While it is difficult to make precise comparisons of percentages from different sources, it would seem that the proportion of incomplete families was higher here than that given in the widely discussed Moynihan report where approximately one-fourth of Negro families in the Northeast were found to be headed by females and over one-third of nonwhite urban children to be living in broken homes. A recent survey (44) of the Central Harlem area done by Harlem Youth Opportunities Unlimited (HARYOU) in 1964 may be more useful as a basis for comparison with the present sample. It was reported that about 50% of the children

Table 18

Percentage of Children Showing Certain Family and School Background Characteristics in Each Subgroup and Total Sample

	HiG[a]	HiB	LoG	LoB	Total Sample
Family Structure					
Adult Male in Home					
Father	47.5%	57.5%	27.5%	42.5%	43.7%
Relative or Other Male	5.0	5.0	15.0	2.5	6.9
No Male	47.5	37.5	57.5	55.0	49.4
Adult Female in Home					
Mother	85.0	92.5	85.0	87.5	87.5
Other Female	12.5	7.5	15.0	12.5	11.9
No Female	2.5	0.0	0.0	0.0	0.6
Number of Children					
6 - 9	20.0	17.5	30.0	40.0	26.9
3 - 5	57.5	37.5	37.5	35.0	41.9
1 - 2	22.5	45.0	32.5	25.0	31.2
Birth Order					
Oldest or Only	35.0	45.0	37.5	22.5	35.0
Middle	42.5	25.0	50.0	60.0	44.4
Youngest	22.5	30.0	12.5	17.5	20.6
Dwelling Conditions					
Type of Dwelling					
Project	25.0	27.5	20.0	20.0	23.1
Not in Project	75.0	72.5	80.0	80.0	76.9
Care of Apartment					
Clean and Neat	87.5	92.5	62.5	62.5	76.3
Not Clean and Neat	12.5	7.5	37.5	37.5	23.7
Room/Person Ratio					
1.5 + Rooms per person	7.5	22.5	2.5	2.5	8.8
1.0 - 1.4 rooms per person	37.5	37.5	27.5	30.0	33.1
Less than 1 room per person	55.0	40.0	70.0	67.5	58.1

---

[a] HiG - High Achieving Girls
HiB - High Achieving Boys
LoG – Low Achieving Girls
LoB - Low Achieving Boys

(continued)

Table 18
Continued

	HiG	HiB	LoG	LoB	Total Sample
Parental Occupational and Educational Level					
Occupational Level[a]					
Skilled: Manual and clerical	15.0%	10.0%	0.0%	7.5%	8.1%
Semi-skilled: Manual and clerical	32.5	22.5	30.0	15.0	25.0
Unskilled: Service	27.5	42.5	17.5	35.0	30.6
Not Working; on Welfare	25.0	25.0	52.5	42.5	36.3
Educational Level[a]					
H.S. Graduate	50.0	45.0	30.0	27.5	38.1
Some Secondary School	42.5	40.0	37.5	25.0	36.3
8th Grade or Less	7.5	15.0	32.5	47.5	25.6
Work Status of Mother					
Full-Time	22.5	30.0	30.0	12.5	23.7
Part-Time	20.0	22.5	5.0	20.0	16.9
Not Working	57.5	47.5	65.0	67.5	59.4
School Attendance					
Attendance at Nursery and/or Kindergarten					
Yes	82.5	87.5	67.5	75.0	78.1
No	17.5	12.5	32.5	25.0	21.9
Number Different Schools Attended					
1 - 2	95.0	92.5	72.5	100.0	90.0
3 - 5	5.0	7.5	22.5	0.0	8.7
6 - 7	0.0	0.0	5.0	0.0	1.3
Attendance Record: Days Absent Annually					
Under 20 days	80.0	85.0	47.5	50.0	65.6
20 - 30 days	12.5	5.0	10.0	7.5	8.8
Over 30 days	7.5	10.0	42.5	42.5	25.6

---

[a] Based on level reached by either mother or father, if living at home, whichever was higher.

under 18 years of age were living with both parents, an observation consistent with our findings.

The children came from comparatively large families; 26.9% were living in families having 6 to 9 children; 68.8% had three or more children. There were, however, 22 "only" children among the 160 subjects; 13 among the high and nine among the low achievers. Most of the children were "middle" children, having older and younger brothers and sisters. The average number of children in the family was 4.0, compared to the HARYOU statistic of 3.3 children per family.

Dwelling Conditions

Although three-quarters of the families lived in old tenements and rooming houses, most of the apartments (76.3%) were rated by the social worker as being "clean and neat." For the group as a whole, there was evidence of some overcrowding; in 58.1% of the families, there was less than one room per family member, one room per person being considered standard. In the HARYOU survey of the same area, it was reported that overcrowding existed in 20% of the housing units compared to 12% for New York City as a whole. This discrepancy (58.1% vs. 20%) may be accounted for in part by the fact that the present sample of children was limited to lower-class families while HARYOU included a range of class levels. It was also noted that only eight families (5%) reported sharing either kitchen or bathroom or both with other families.

Parental Occupation and Education

The occupational and educational levels reported in Table 18 were in terms of the highest level reached by either mother or father, if living at home. This procedure was followed rather than using an average, since it was felt that the higher level of education or occupation would make itself felt in the home and in turn might affect the achievement functioning of the children.

From the data on occupational level, it appeared that, within the limited socio-economic range prescribed for our sample, there was still a good deal of variability. For example, at the lower end of the occupational ladder, 36.3% of the families were either on welfare or not working, while at the upper end, 8.1% of the families had a parent engaged in skilled manual or clerical work. For the middle range of occupations, there were more parents in service jobs than in semi-skilled manual or clerical work.

In almost three-quarters of the families (74.4%), at least one parent had some secondary schooling, with 38.1% having graduated from high school, the highest educational level acceptable for inclusion in the sample. (It should be mentioned at this point that 82% of the parents had been born in the South, 75% among the high achievers and 90% among the low achievers, and many were presumably educated there). In over one-fourth of the families (25.6%), neither parent had gone beyond eighth grade.

A larger number of mothers than of fathers of our children were reported to have had some high school education (126 mothers and 89 fathers) yet, among the working parents, the fathers were working in occupations that ranked higher than the mothers; 34 fathers were in the two top levels compared to only five mothers. About one-quarter of the mothers (23.7%) worked full-time; 59.4% did not work at all.

School Items

Three specific school background items which were considered to be in large measure concomitants of the home situation were examined. These were: 1) attendance in nursery and/or kindergarten 2) the number of different schools attended and 3) attendance record for the first four years of school.

Most of the children had attended kindergarten or nursery school (78.1%). Only seven of these children had attended nursery school as well as kindergarten while eight attended nursery school but not kindergarten.

The number of days absent from school in each of the first four years was rated in three categories: under 20 days as "few" absences, considering the age of the children; 20-30 days absent, about "average," and over 30 days, as "excessive." For the group as a whole, 65.6% of the children were away from school in any one year fewer than 20 days and 25.6% were excessively absent. It should be emphasized that the period covered included the primary grades where absences are likely to be most frequent.

Surprisingly, 90% of all the children attended only one or two different schools during their first five years of schooling, although there was one child who had attended seven different schools. These data, plus the observation that many of the transfers that did occur were within the school district, showed much less mobility than is popularly attributed to this group. The HARYOU report also presented evidence of considerable stability in the Central Harlem community. It included census data which revealed that two-thirds of the residents had lived in the same house in 1955 as in 1960, constituting even greater stability than for the rest of New York City.

Ratings of Psychological Dimensions of the Home

To evaluate the more subtle family relations and parental attitudes, the interview material was used as a basis for rating five psychological dimensions of the home, selected to include areas which might have a bearing on school achievement:

A. Structure and Orderliness of the Home
B. Awareness of the Child as an Individual
C. Concern for Education
D. General Social Awareness
E. Rationality of Discipline
    1. Re Poor School Marks
    2. Re Misbehavior

Five-point rating scales were used with "5" representing the greatest "amount" of each variable. (See Appendix T for specific questions on which each rating was based and also for interrater reliability.)

Table 19 presents means and standard deviations of the ratings for the four subgroups on the five dimensions.

As a group, the families were most often given positive ratings, that is, higher than the midpoint of the scale. There existed among the families awareness of the child as an individual, concern about his education, and considerable structure in the home environment, often with very specific rules for behavior. The parents were rated lower in social awareness, a

Table 19

Ratings of Psychological Dimensions of the Home: Means and Standard Deviations for Each Subgroup

	HiG	HiB	LoG	LoB
A. Structure and Orderliness of Home				
1-----------5[a]	4.1	4.0	3.7	3.6
Low High	(0.72)[b]	(0.79)	(1.05)	(1.09)
B. Awareness of Child				
1-----------5	4.1	4.2	3.2	3.7
Low High	(0.99)	(0.94)	(1.09)	(1.25)
C. Concern for Education				
1-----------5	4.6	4.4	3.8	3.9
Low High	(0.66)	(0.70)	(0.98)	(1.08)
D. General Social Awareness				
1-----------5	3.4	3.3	2.6	2.7
Low High	(1.07)	(1.10)	(1.18)	(1.23)
E. Rationality of Discipline				
1-----------5				
Irrational (beat) Rational (explain)				
1. Poor School Marks	4.4	4.4	4.2	4.2
	(0.80)	(0.73)	(1.00)	(0.89)
2. Misbehavior	2.6	2.6	2.4	2.0
	(1.11)	(0.83)	(0.85)	(0.89)

---

[a] The ratings have a possible range of from 1 to 5 with 5 representing the most positive rating.

[b] Numbers in parentheses are standard deviations.

scale incorporating what they read, what they knew about various civil rights groups, and their general alertness. Although these parents were, as a group, rational with respect to discipline when the child gets a "bad mark" in school, using explanation and suggestion to help him, many resorted to whipping and beating as disciplinary measures for misbehavior. On the whole, though it might be true that to some extent the parents gave responses that they felt were expected of them, the picture of the families that emerged was one of definite interest and thought concerning the child's welfare.

Achievement and Sex Differences in Background Items

The reader will have noted that the percentages for a number of status items varied considerably among the subgroups, as did the means of the ratings on the psychological dimensions. These differences were tested for significance through analysis of variance. In order to perform the analysis, quantitative scores were assigned to the categories used for coding each item, with the higher value given to the presumed positive end of the scales. (For details of scoring, see Appendix T).

Status Variables

The analysis of variance results for home and school background items are given in Table 20 for achievement, sex and interaction effects. As with the psychological variables, the .01 level of significance was used and significant F ratios were transformed to point biserial correlation coefficients.

Several significant differences were observed. The parents of the high achievers had a higher occupational level as well as educational level; the families lived in larger quarters and their homes were better cared for. It may well be that a larger proportion of the high achievers' families could be described as "upper-lower" level in contrast to the more depressed socio-economic circumstances of the average low achievers.

There were no substantial differences by achievement on the following family variables: Type of Dwelling, Work Status of

Table 20

Family Status Variables and School Items: F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

	Source of Variation		
Background Item	Achievement	Sex	Interaction
Care of Apartment	16.1** .30[a]	0.0	0.0
Educational Level of Parent	15.4** .30	2.7	0.0
Occupational Level of Parent	10.1* .25	0.0	1.1
Room/Person Ratio	7.1* .21	4.2	0.3
Number Children	4.6	0.0	3.7
Father or Other Male in Home	4.3	1.5	0.0
Work Status of Mother	2.0	0.0	2.0
Type of Dwelling	0.9	0.0	0.0
Mother or Other Female in Home	0.0	0.7	0.2
Birth Order	0.0	0.6	0.9
Attendance Record	27.9** .39	0.0	0.0
Nursery/Kindergarten Attendance	4.5	0.9	0.0
Number Schools Attended	0.8	5.6	6.5

---

* $p < .01$ ** $p < .001$ df 1/156

[a] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed differences supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

Mother, Number Children, Birth Order, and the two family structure items. The one school background item that differentiated the two groups was the Attendance Record, the high achieving group having the fewer absences. There were no significant sex differences for any of the status variables nor any significant interaction effects.

Psychological Dimensions

The analysis of variance results for the ratings of psychological dimensions, given in Table 21, revealed substantial differences between the high and low achievers. For each dimension, except Rationality of Discipline re "poor school marks," the quality of the family situation of the high achievers was judged superior. Their parents responded more often than those of the low achievers with statements indicating their awareness of the child as an individual. They realized that the child's own needs were factors to be considered. They were better informed about appropriate lines of action to achieve educational goals, e.g., preferring an academic high school as preparation for college; they more often provided books in the home. The parents of the high achievers also gave evidence of being more interested in and aware of broader social concerns than those relating only to their own children and homes.

Correlations of Background Variables with Achievement Status

The significant F ratios for background items and ratings of the home were converted to point biserial correlations as was done for the psychological data. The highest correlation was noted for Attendance Record (.39), a variable that hardly needs theoretical interpretation to relate it to school work.

Several home status variables were significantly correlated with achievement, notably Care of Apartment (.30), Educational Level of parent (.30) and Occupational Level of parent (.25). Just at the .01 level of significance, was the correlation of achievement with Room/Person Ratio (.21).

All but one of the correlations between achievement and ratings of home dimensions were significant, ranging from .21 to .36; the most substantial correlation was observed for parental Concern for Education (.36). Both Awareness of Child and

Table 21

Psychological Dimensions of the Home: F Ratios and Significant Correlations for Achievement, Sex, and Interaction Effects

	Source of Variation		
Psychological Dimension	Achievement	Sex	Interaction
Concern for Education	24.2** .36[a]	0.1	0.6
Awareness of Child as an Individual	18.3** .31	3.3	1.2
General Social Awareness	16.6** .31	0.0	0.3
Structure and Orderliness of the Home	7.3* .21	0.4	0.1
Rationality of Discipline			
Re Misbehavior	9.2* .23	1.4	1.4
Re Poor School Marks	1.6	0.1	0.0

---

* $p < .01$ ** $p < .001$ df 1/156

[a] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed difference supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

General Social Awareness correlated .31 with achievement, followed by Rationality of Discipline for misbehavior (.23) and Structure and Orderliness of the Home (.21).

It is interesting that several variables often discussed in relation to lower-class school achievement were less highly correlated, e.g., presence of Father or Other Male in Home (.16), Number Children (.17) and Nursery/Kindergarten Attendance (.17). None of these three items tapped quality as did the item Care of Apartment or psychological processes as assessed by the rating scales. The Coleman report (20) also noted that the presence of a father was not related to school achievement especially among the Negro population. Very often, children in our sample whose fathers were not living at home mentioned in their interviews that their fathers did visit and take them out, probably very much like middle-class separated and divorced fathers.

In summary, it seems warranted to conclude that the quality of parental concern for the child in general, and for his education in particular, and the socio-economic and educational level of the parents were important for school achievement in these lower-class Negro children. Also significant for school achievement was a good attendance record in the early years. On the other hand, the particular family composition and certain items of school history, such as, nursery or kindergarten attendance, did not have as much impact.

CHAPTER 6

INTERRELATIONSHIPS AND FURTHER DATA REDUCTION

Correlations Among the Psychological, Physical, and Background Variables

It was considered worthwhile to look at the interrelationships among the variables studied, even though the major purpose of this study was to compare high and low achievers from a lower-class population. Accordingly, an intercorrelation matrix was developed consisting of the 30 factor scores from the psychological material, 19 items from the home and school background material, and eight medical items. The data analysis was carried a step further by deriving second-order factors to reduce the number of variables to a few fundamental dimensions for a summary comparison of achievement and sex groups.

Before proceeding to the second-order results, some of the specific correlations among the set of psychological factor scores, among the home background items, and among the physical items will be described, as well as the interrelationships among items from all three domains. It is well to keep in mind that, if compared to values in the total population, the correlations may be inflated to the extent that the variables in question were related to achievement, since extreme high and low achievement groups were used rather than the full range of achievement. Nevertheless, a correlation in this sample would not occur unless there were some correlation in the population from which the sample was derived and, in any case, the correlations would be representative for groups selected from the extremes of the achievement continuum. A significant correlation at the .01 level for a sample of 160 is .21 or higher and only correlations of this magnitude will be considered in the following discussion. The concern in this study, however, was not with the absolute values of the coefficients, which were not high, but rather with the patterns of interrelationships that emerged.

Psychological Variables

The factors identified in each matrix developed for the analysis of the psychological material were relatively independent. There may be, however, varying degrees of relationship among the factor scores from the same matrix as well as among those from different matrices. The correlations among the 30 factor scores are presented in Table 22, grouped as they were for testing the hypotheses.

The largest number of significant correlations (18 out of a possible 29) existed between the Perceptual-Conceptual Accuracy (Cog I) factor scores and the other factor scores. Especially high were the correlations with Academic Effort, Academic Interests, and Conformity to Authority Demands. The clinical ratings on Self-Realization and Effective Controls were also related to cognitive efficiency. It should be recalled at this point that the Cog I factor showed the highest relationship to achievement status (.80) and that the other factors mentioned above were also substantially related to achievement so that the interrelationships among them might have been anticipated.

Most interesting was the observation that the Cog I factor, measuring primarily verbal-informational convergent abilities, was not related to Verbal Divergent Production or to Response Speed, the latter considered a cognitive style variable. It was clear that at this level of analysis, convergent and divergent abilities were independent skills, although it might well be asked whether such a finding is not an artifact of the school situation. It should be noted that Response Speed was positively related to both productivity and anxiety indicators on the Rorschach as well as to the need to achieve; logically, quick responding had a negative relationship to Effective Controls.

The factor scores that measured aspects of ego strength were substantially interrelated (.27 to .44). The Self-Realization factor seemed particularly to tap a fundamental dimension since it had significant correlations with many other aspects, including positive self-feelings and emotional balance, a tendency to see school and authority figures as active or dynamic, as well as competent cognitive performance in both the convergent and divergent tasks.

Table 22

Intercorrelations Among the Psychological Factor Scores

		Cognitive Factors (Hypothesis 1)					Ego Strength Factors (Hypothesis 2)				
		Cog II	Cog III	Cog IV	Cog V	Ror I	Clin II	Clin III	Ror II	Ror IV	Mot II
Perceptual - Conceptual Accuracy	Cog I	43	41	07	01	06	56	30	33	-12	24
Nonverbal Creative Production	Cog II		25	00	02	11	39	15	20	07	15
Linguistic Complexity	Cog III			20	10	13	30	-04	10	08	21
Response Speed	Cog IV				-17	24	10	-22	10	66[a]	-12
Verbal Divergent Production	Cog V					22	21	21	08	-15	04
Conventional Productivity	Ror I						10	01	-07	18	-02
Self-Realization	Clin II							38	44	-05	27
Effective Controls	Clin III								35	-11	12
Ego - Reality Integration	Ror II									04	04
Socialized Responsiveness	Ror IV										-13
Optimism	Mot II										
Personal Competence	Sel III										
Academic Competence	Sel II										
Social Competence	Sel I										
Nonintellectual Competence	Sel IV										
Academic Effort	Beh I										
Academic Interests	Mot IV										
Curiosity Behavior	Mot III										
Achievement Motivation	Mot I										
Responsibility for Learning	Ach II										
Anxious Striving	Ach III										
Routine Academic Concern	Ach I										
Conformity to Authority Demands	Beh II										
Academic - Evaluative	Sem III										
Potency	Sem II										
Activity	Sem I										
Persons - Evaluative	Sem IV										
Personal Qualities	Beh III										
Emotional Disturbance	Clin I										
Anxious Emotionality	Ror III										

---

[a] The magnitude of this correlation is probably an artifact of scoring since the Rorschach time scores were included in both factors.

(All decimal points omitted; significant correlations are underlined)

Self-Appraisal Factors (Hypothesis 3)				Academic Motivation Factors (Hypothesis 4)							School and Authority Attitudes Factors (Hypothesis 5)					Emotional Health Factors (Hypothesis 6)		
Sel III	Sel II	Sel I	Sel IV	Beh I	Mot IV	Mot III	Mot I	Ach II	Ach III	Ach I	Beh II	Sem III	Sem II	Sem I	Sem IV	Beh III	Clin I	Ror III
39	28	17	-07	62	59	27	24	13	22	-12	52	-21	-23	04	-04	35	-25	13
22	-04	03	-01	13	26	-03	14	05	-02	03	07	-18	-12	00	-10	-05	-07	12
21	14	02	-10	19	26	19	27	04	-01	03	23	-02	-07	-01	-04	06	-17	22
-02	02	00	12	12	07	14	21	-01	-06	-06	01	05	-04	12	-07	02	09	31
07	-03	-10	01	-01	-03	06	15	-07	-10	02	-02	00	-04	05	02	-16	-08	15
-04	-08	-05	09	00	-06	03	23	-15	-10	-06	03	01	00	17	-06	-10	-04	22
30	16	12	10	31	47	08	10	14	05	-03	29	02	-05	23	06	12	-26	15
23	08	12	01	14	28	01	-11	04	08	05	14	-03	-04	09	07	05	-15	-30
12	-03	05	-05	19	20	10	07	-05	-08	-17	13	00	00	07	08	03	-24	06
-05	-06	-10	10	-07	-13	11	18	-17	-19	-10	-06	-02	01	07	-10	-11	08	19
21	17	01	00	16	20	-02	-32	15	07	04	15	11	05	18	09	23	-34	04
	38	33	13	36	36	18	16	26	18	-01	24	-09	-12	15	17	17	-24	-14
		46	17	34	23	09	-04	06	13	03	20	-02	00	01	12	26	-24	02
			13	26	24	13	06	08	20	-02	15	-04	-08	02	15	23	-18	01
				-13	09	03	-03	03	00	00	-24	-01	00	17	04	01	-07	02
					40	23	15	20	14	-05	67	-07	-25	02	15	52	-27	08
						11	17	13	23	02	28	-13	-12	08	08	23	-25	-01
							16	09	05	00	17	-04	-11	-01	-02	14	-07	13
								-07	08	03	15	-05	-12	-04	-05	05	04	12
									17	23	12	16	-10	-07	04	17	-05	-03
										21	11	00	00	02	13	19	-03	-09
											-08	31	19	07	17	02	-03	-01
												-05	-24	06	07	35	-28	11
													27	10	38	00	-08	04
														14	32	-11	02	-05
															18	12	-25	-07
																24	-18	-05
																	-22	-10
																		06

The self-appraisal factors gave a meaningful pattern among themselves with the three achievement-related items - Academic Competence, Social Competence and Personal Competence - substantially intercorrelated (.33 to .46), while Nonintellectual Competence was not related to any of the other three areas of self-concept.

In relation to motivation and attitudes, the most striking relationships emerged for the three factors based on the teacher ratings. A particularly high correlation occurred between the teacher ratings of the child's manifest effort in schoolwork and his behavior toward teacher and peers (Beh I and Beh II = .67). The Academic Effort (Beh I) factor in particular was related to the main self-appraisal factors as well as to other cognitive and personality variables. More positive, perhaps uncritical, evaluation of academic concepts (Sem III) was correlated .31 with greater Routine Academic Concern (Ach I). While most of the relationships among the motivational and attitudinal items were positive, an unusual negative one was noted between Achievement Motivation and Optimism (-.32), indicating that a strong desire to achieve may be accompanied by greater anxiety about the outcome of one's efforts.

The final pattern of relationships worthy of comment was between the rating of Emotional Disturbance (Clin I) and a number of the other factor scores, all correlations being negative (-.22 to -.34). Notably, the children who were rated by the clinicians as having some emotional difficulty were those who were not as likely to do well in cognitive performance, nor to exhibit much academic interest and effort in their schoolwork. They were also less inclined to conform to authority demands and generally felt less positive about themselves, significant people, and schoolwork.

Background Variables

The correlation matrix for the background variables is presented in Table 23. Three of the variables, Nursery/Kindergarten Attendance, Number Different Schools Attended, and the rating for Rationality of Discipline re school marks, are not shown in the table since they were not correlated significantly with anything else.

Table 23

Intercorrelations Among the Background Variables

(All decimal points omitted; significant correlations are underlined)

	Status Factors										Ratings of Psychological Dimensions				
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Room/Person Ratio	21	-50	25	16	-24	-32	-09	-08	-12	16	08	00	14	08	05
2. Care Apartment		-23	14	01	09	01	18	24	10	26	23	23	34	54	22
3. Number Children			-30	-28	19	26	-06	-07	18	-27	-09	-03	-14	-28	-19
4. Work Status Mother				04	02	-08	22	36	-07	22	-08	04	-01	00	04
5. Birth Order					04	-22	11	16	-11	04	-05	-04	05	09	10
6. Male in Home						25	20	55	31	12	00	09	08	02	-18
7. Female in Home							24	23	12	-12	15	15	03	-01	-09
8. Educational Level								43	08	15	23	32	23	14	11
9. Occupational Level									20	14	12	24	17	15	-02
10. Type Dwelling										05	14	16	07	13	-10
11. Attendance Record											01	11	09	25	16
12. Awareness of Child												57	63	43	18
13. Social Awareness													68	35	09
14. Concern for Education														58	18
15. Structure & Orderliness															19
16. Rationality Discipline re Misbehavior															—

A number of home status variables were related to each other, e.g., Room/Person Ratio was significantly correlated with Care of Apartment, Number Children, and Work Status of Mother; specifically, the larger the apartment a family had, the better it was cared for, the more likely that there were fewer children, and the more likely that the mother would be working full or part-time. This constellation of items probably mirrored better economic status. It should be pointed out, however, that Room/Person Ratio was not related to any of the ratings of the psychological dimensions of the home, although Care of Apartment was significantly related to all five of the home ratings. Clearly, physical quarters per se were not as important to certain psychological qualities as was the actual attention given to neatness and cleanliness of the apartment itself.

Number of Children in the family was negatively correlated to several other variables: a larger number of children was related to more frequent absences from school, to lower ratings for Structure and Orderliness of the Home, as well as to rather obvious items such as less likelihood of mother working and more overcrowding.

Parental Educational Level and Occupational Level were, of course, related to each other (.43) and each, to certain other variables. The higher the education and/or occupational level, the more likely it was that the mother was working part or full-time and that the apartment was better cared for. The correlation of .31 between Male in the Home and Type of Dwelling may be a result of the New York City arrangement which gives preference to complete families in low-income housing projects.

There were significant correlations between Educational Level and three of the psychological ratings of the home but Occupational Level was related only to the rating for Social Awareness. The importance of parental education for the psychological quality of family life was brought out in these relationships.

Attendance Record in school, which has already been mentioned as being negatively related to Number of Children, had several other significant relationships. Children whose mothers worked and whose homes were rated as well cared for and as having more structure and order were less likely to be absent from school excessively.

The most highly related cluster of variables was found to be the ratings of the psychological dimensions of the home, with the exception of the discipline rating. The intercorrelations among ratings ranged from .35 to .68. It is likely that some halo effect entered into the ratings although effort was made to minimize this.

Physical Variables

The correlations among the six medical ratings used by the pediatrician, along with height and weight, are shown in Table 24. The physical measures, for the most part, were independent. There were only two significant correlations, one between Overall Medical Status and Neurological Status (.23) and one between Vitality and Posture (.50). The obvious relationships were found between Height and Weight (.71) as well as between Sexual Maturation and each of these, .44 and .40 respectively. There were two significant negative correlations with Vitality, namely for Height, and Weight, each -.21, suggesting the effect of either the fatigue often observed during early adolescence or the general sluggishness of big, overweight children.

Table 24

Intercorrelations Among the Physical Variables
(All decimal points omitted; significant correlations are underlined)

	2	3	4	5	6	7	8
1. Overall Medical Status	23	15	19	-05	12	-01	00
2. Neurological Status		19	18	-03	03	-06	01
3. Vitality			18	-10	50	-21	-21
4. Nutritional Status				03	11	07	17
5. Sexual Maturation					-03	44	40
6. Posture						-10	-10
7. Height							71
8. Weight							—

Correlations Between Psychological and Background Variables

Since there were relatively few significant correlations between the psychological and background variables, the entire matrix is not given but the significant correlations with three of the psychological factors are listed below. Other significant correlations, not shown in the list, are referred to in the text.

	Perceptual-Conceptual Accuracy (Cog I)	Academic Interests (Mot IV)	Academic Effort (Beh I)
Background Status Items			
Room/Person Ratio	.29	---	.26
Care of Apartment	.31	.32	.31
Number of Children	-.25	-.23	-.23
Educational Level of Parent	.24	---	.25
Occupational Level of Parent	.24	.23	.28
Attendance Record	.35	.25	.30
Ratings of Home Qualities			
Awareness of Child	.34	.26	.34
Concern for Education	.40	.31	.36
Social Awareness	.26	.26	.26
Structure & Orderliness of Home	.27	.29	.34

Of the cognitive abilities factors, only one, Perceptual-Conceptual Accuracy (Cog I) was found to have significant positive relationships to a substantial number of home status variables as well as to the ratings of the psychological dimensions of the home. The Academic Interests (Mot IV) factor, which incorporated both cognitive and motivational components, was also related to several of the family variables. There was some connection, therefore, between a more advantaged home and the child's cognitive development as well as his interest in learning. The only other psychological factor that showed a consistent, across-the-board relationship to the family variables was Academic Effort (Beh I), as rated by teachers.

One cognitive variable (Cog V) which, in contrast to Cog I, measured verbal divergent ability, and the Activity factor from the Semantic Differential (Sem I) each correlated with the presence of a Male in the Home (.21 and .23, respectively). Thus, though the Male in Home variable had not been found significantly related to achievement and school-related cognitive performance, it may be involved in the development of certain dynamic outlooks and abilities.

In the list above, it may be seen that Number of Children in the family was inversely related to the main cognitive ability, interest and effort factors. It has sometimes been posited that the sib and peer groups constitute an important medium for learning in lower-class children. These data would suggest that a large sib group did not promote intellectual development with academic orientation, but, if anything, the opposite.

Particularly worthy of note was the fact that Attendance Record was related not only to cognitive performance, and academic interests and effort, as would be expected, but also to positive Personal Qualities (.26) and to a certain amount of anxiety with regard to getting good marks, Anxious Striving (.25). Two other school items, Nursery/Kindergarten Attendance and Number of Schools Attended, surprisingly, showed no correlation with any of the cognitive variables.

There were several correlations, which have not yet been discussed, between personality factor scores, including self-ratings (Sel II, III), teacher ratings of Personal Qualities (Beh III), and Self-Realization (Clin II), and home variables. These correlations, ranging from .22 to .26, involved the ratings of Concern for Education and Awareness of Child, plus some of the status items (Care of Apartment, Occupational Level, and Attendance Record). Consistent with the above observations, was the negative correlation between Care of Apartment and Emotional Disturbance (Clin I), -.22 .

Finally, several interesting correlations were observed between some of the home ratings and attitudes toward authority. Children whose homes were rated higher in Awareness of Child and Concern for Education demonstrated relatively greater *Conformity to Authority Demands* (Beh II), with correlations of .28 and .25, respectively. Also, where parents were rated low in Social Awareness, the children tended to rate authority and school concepts higher on the *Potency* dimension of the Semantic Differential (-.23), perhaps indicating an unquestioning acceptance of the power of authority and, concomitantly, the powerlessness sometimes ascribed to lower-class populations.

The rating for Rationality of Discipline re misbehavior, which had little relationship to the other home items, was not correlated with any of the psychological variables either. Perhaps the specific method of discipline in itself was not crucial since it showed little relationship here either to the level of the home or the psychological attributes of the child.

Correlations Between Psychological and Physical Variables

There were only six psychological variables that showed any significant relationships with the physical items. They are listed below.

Verbal Divergent Production (Cog V)	Height	-.22
Nonverbal Creative Production (Cog II)	Nutrition	.21
Academic Competence (Sel II)	Posture	.22
Social Competence (Sel I)	Sexual Maturation	.22
Responsibility for Learning (Ach II)	Height	.28
Personal Qualities (Beh III)	Vitality	.26

The finding that Height was correlated negatively with *Verbal Divergent Production* and positively with *Responsibility for Learning* has developmental implications in that imagination, so easily accessible to the younger child, tends to become restricted as he matures and accepts responsibility for the tasks required by the school. The correlation between Sexual Maturation and Social Competence confirmed the observation frequently made that physical growth helps the child to mature socially, especially during early adolescence. The children who were rated higher in Vitality by the physician were somewhat more likely to be rated high in personal qualities by their teachers, an understandable relationship. Nutritional Status went along with more creativity in a nonverbal situation. Finally, the positive correlation of Posture with Academic Competence from the self-ratings implied that this physical attribute may mirror self-esteem.

Correlations Between Background and Physical Variables

Three background variables were related significantly to the physical items.

Attendance Record	Overall Medical Status	.21
Educational Level of Parent	Posture	.23
Rating on Concern for Education	Nutritional Status	.21

The correlation between Attendance Record and the Overall Medical Status rating, which is a logical one to expect, gave support to the validity of the physician's judgment. The other two correlations suggested the importance of parental interest and knowledge in providing for the physical well-being of the child.

Summary

Examination of the intercorrelations among variables revealed that the strongest relationships existed among Perceptual-Conceptual Accuracy, Academic Effort, and Academic Interests and between this set of psychological dimensions and background items. The latter included both the ratings of quality of the home and specific variables, particularly those dealing with parental educational level and efficiency in managing the home. The three psychological factor scores noted above also had significant relationships to ego strength, to emotional stability and to positive self-appraisal but the latter psychodynamic dimensions showed less relationship to home variables.

The various scores for divergent aspects of cognitive functioning had few significant intercorrelations, nor were these scores appreciably related to other psychological factor scores or to the several background variables. Similarly, the medical ratings and certain factual background items, such as family composition and preschool experience, had few significant correlations with any variables.

Second-Order Data Reduction

Description of the Five Second-Order Factors

The second-order factors were derived from a matrix consisting of all 30 of the first-order psychological factors plus the one Overall Medical Status rating and the five ratings for psychological dimensions of the home. The ratings were selected for inclusion because they summarized a large number of discrete scores on a level comparable to the psychological factor scores.

The analysis was performed in the same manner as the first-order procedure resulting in the factor structure presented in Table 25. The five factors accounted for 33% of the total variance in the matrix and were ordered according to the proportion of variance each explained. The code "Sec" was used for factors from the second-order analysis.

The first factor, Cognitive-Ego Efficiency (Sec I), comprised the major cognitive and ego factor scores. High loadings were noted for Self-Realization, which was cited previously as combining positive intellective and personality attributes, and Perceptual-Conceptual Accuracy. Two other first-order cognitive abilities factors also appeared here, although loaded to a much lesser degree, namely, Nonverbal Creative Production and Verbal Divergent Production. Academic Interests had a substantial loading on this factor. The positive loadings for Ego-Reality Integration and Effective Controls and the negative loading for Emotional Disturbance were consistent with the interpretation of

Table 25

The Five Second-Order Factors: Items and Loadings
(All decimal points omitted)

Factor I (Sec I)

Cognitive-Ego Efficiency

Self-Realization (Clin II)[a]	72
Perceptual-Conceptual Accuracy (Cog I)	63
Ego-Reality Integration (Ror II)	52
Effective Controls (Clin III)	48
Academic Interests (Mot IV)	48
Emotional Disturbance (Clin I)	-45
Nonverbal Creative Production (Cog II)	41
Verbal Divergent Production (Cog V)	30

Factor II (Sec II)

Positive Self and Projected Image

Academic Effort (Beh I)	60
Personal Qualities (Beh III)	52
Academic Competence (Sel II)	51
Social Competence (Sel I)	48
Personal Competence (Sel III)	46
Conformity to Authority Demands (Beh II)	44
Anxious Striving (Ach III)	39
Responsibility for Learning (Ach II)	36

Factor III (Sec III)

Parental Concern

Concern for Education	77
General Social Awareness	72
Awareness of Child	69
Structure and Orderliness of the Home	57
Rationality of Discipline re Misbehavior	28
Medical Status Rating	27

Factor IV (Sec IV)

Motivation and Productivity

Response Speed (Cog IV)	70
Socialized Responsiveness (Ror IV)	63
Anxious Emotionality (Ror III)	45
Achievement Motivation (Mot I)	42
Linguistic Complexity (Cog III)	37
Conventional Productivity (Ror I)	34
Curiosity Behavior (Mot III)	22

Factor V (Sec V)

Positive Expressed Attitudes

Academic-Evaluative (Sem III)	50
Persons-Evaluative (Sem IV)	48
Potency (Sem II)	47
Activity (Sem I)	42
Optimism (Mot II)	31
Nonintellectual Competence (Sel IV)	27
Routine Academic Concern (Ach I)	27

---

[a] Letter code and number in parentheses identify the matrix and factor number as cited in Chapter 3.

the factor. Thus, the Sec I factor brought together the psychological factor scores that represented cognitive abilities and aspects of personality structure, especially effective integration within the self and between self and reality.

The structure of the Sec II factor was defined chiefly by the self-appraisal and teacher appraisal factors and was named Positive Self and Projected Image. All three teacher rating factors, which included effort, personal traits, and conforming behavior had high loadings on this factor, as did three dimensions of self-concept - Academic, Social and Personal Competence. Two other factors also appeared here, though with lower loadings, namely, Anxious Striving and Responsibility for Learning, derived from the Achievement Attitudes Test. It seemed from this alignment of factors, that the way the children rated themselves and the way their teachers perceived them were highly related and that positive appraisals were also connected with the child's concern about achievement and the realization of his own responsibility in the matter.

Parental Concern (Sec III) was the third second-order factor, covering five quality dimensions rated for the home as well as the weakly loaded medical status rating which may be considered a reflection of parental concern about the child's health. The fact that the ratings for such qualities as parents' concern for education, awareness of the child and structure of the home were substantially correlated has already been noted and these relationships served to define an independent factor.

Drive and responsiveness described the underlying elements in another of the second-order factors, Motivation and Productivity (Sec IV). Here there appeared the tendency to produce conventional, socially-approved responses (Ror I), comparatively rapidly (Cog IV), accompanied by relatively strong drive (Mot I) and anxiety about achievement (Ror III). Included also in this factor were linguistic complexity (Cog III), and, marginally, curiosity behavior (Mot III).

The final factor that emerged from the second-order analysis, Positive Expressed Attitudes (Sec V), represented evaluations of school activities and authority figures. It can be seen here that all four factors which had been derived from the Semantic Differential in the first-order analysis loaded together at this level of analysis. The marginal appearance of Optimism (Mot II) with other factors expressing positive attitudes seemed reasonable. Although this variable had been considered under the ego strength hypothesis, it turned out to be more highly related to relatively surface evaluations. Two other variables that loaded weakly here represented favorable responses for relatively less challenging activities; one variable (Sel IV) dealt with self-feelings of competence in nonacademic areas and the other, with involvement in routine school tasks (Ach I).

The reader might question why several pairs of variables which had previously shown high correlations did not appear on the same second-order factor. This can be clarified by noting that in such cases each of the variables also had a relatively high loading on the other's primary factor. This, in turn, suggested that when scored, those second-order factors would be correlated. Instances of this sort occurred chiefly between Sec I and Sec II. For example, Perceptual-Conceptual Accuracy (Cog I) and Academic Effort (Beh I) showed a correlation of .62, yet Cog I appeared in Sec I, while Beh I appeared in Sec II. But each of these had high loadings on the other factor; Cog I had a loading of .43 on Sec II, and Beh I had a loading of .40 on Sec I. One other factor from Sec I, Academic Interests (Mot IV) also had a substantial loading on Sec II, .38. Conversely, two Sec II items had substantial loadings on Sec I, namely Conformity to Authority Demands, .40, and Personal Competence, .37.

The factor of Linguistic Complexity might have been expected to appear on Sec I since it was related to cognitive abilities. It actually carried a loading of .34 on Sec I compared to its primary loading of .37 on Sec IV.

On the whole, it was felt that the reduction of the factor scores and ratings produced well-defined, although not completely independent, second-order factors which could be considered a meaningful summation of the data.

Achievement and Sex Differences

A 2 x 2 analysis of variance was performed for the second-order factor scores as had been done on the first-order level. Table 26 presents the F ratios for achievement, sex and interaction effects for the five second-order scores, along with the corresponding point biserial correlation coefficients.

Table 26

Second-Order Factors:
F Ratios and Correlations for Achievement, Sex, and Interaction Effects

	Source of Variation		
Factor	Achievement	Sex	Interaction
Cognitive-Ego Efficiency (Sec I)	70.0** .55[a]	1.5	1.4
Positive Self and Projected Image (Sec II)	115.4** .65	2.1	0.0
Parental Concern (Sec III)	22.6** .35	1.2	0.1
Motivation and Productivity (Sec IV)	5.5 .18	0.1	2.0
Positive Expressed Attitudes (Sec V)	2.1 -.11	0.0	0.0

** $p < .001$ df 1/156

[a] Correlations are point biserial correlations for the variable in question with achievement status or sex. Positive r values indicate that the direction of the observed difference supported the hypotheses (i.e., High > Low Achievers; Girls > Boys); negative r values indicate that the direction was contrary to the hypotheses.

Three of the second-order factors gave significant achievement differences in the expected direction, at better than the .001 level, Positive Self and Projected Image, Cognitive-Ego Efficiency, and Parental Concern, while the factors for Motivation and Productivity and Positive Expressed Attitudes did not differentiate the groups. No significant sex or interaction differences emerged.

The results of the analysis of variance for the second-order factors were substantially consistent with the first-order pattern since the factor scores that had given highly significant F ratios at the first level defined the main differentiating factors at the second level.

When the F ratios for the second-order analysis were transformed into point biserial correlations, it was evident that the largest correlation with achievement status,.65, occurred for Positive Self and Projected Image. The Cognitive-Ego Efficiency factor was correlated .55 and Parental Concern, .35 with achievement status. The other two correlations with achievement status were not significant at the .01 level; Motivation and Productivity was .18, and Positive Expressed Attitudes was -.11.

Summary

The second-order factors seemed entirely reasonable in clarifying the major dimensions which differentiated the achievement groups. The high achievers were distinguished from the low achievers in three basic areas. Their own self-image and the way others, in this case teachers, viewed them was more favorable than the low achievers. They were superior in cognitive abilities and, bound up with this, they showed greater ego strength. Finally, their parents provided more structure in the home as well as showing greater awareness of the child and his needs, including education. Also of importance was the finding that the low achievers were not significantly different from the high achievers in their expressed attitudes toward schoolwork and authority figures, as well as in their avowed desire to produce and achieve.

The statistical findings presented in Chapters 4, 5 and 6 dealt with group comparisons. To provide a more qualitative view of the children, a number of individual case studies were prepared and are appended. Included with each case are verbatim and facsimile samples of the children's productions. The cases illustrate some of the group findings but also serve to demonstrate the individuality of specific children.

CHAPTER 7

DISCUSSION

Variability of Performance in Lower-Class Children

The data presented herein challenged a number of prevailing stereotypes of lower-class children, particularly lower-class Negro youngsters. These children have been characterized as showing educational and intellectual retardation, verbal deficiency and poor abstract ability, inadequate self-concept, poor motivation, lack of control and impulsivity, resentment of authority, relatively poor health, and inadequate homes.

Rather than presenting a uniform picture of deficiency, our sample of Negro children from a severely deprived environment exhibited considerable variability. While variability is expected for any group in every aspect of behavior, special attention must be paid to its extent in this particular group of children. The sample had been deliberately selected to represent a wide range in school achievement concentrated at the two extremes of the distribution and separated by a substantial gap. The high achievers made scores ranging from approximately fifth to tenth grade level, and the low achievers, from second to middle third grade level in reading comprehension, one of the major criteria used for selection. Thus, there was a gap of one and one-half grades between the top of the low group and the bottom of the high group.

It was interesting to compare the range of reading scores with the findings on some of the dependent variables. The second-order factor scores, which are the best summary of all the data, will be used for illustrative purposes, as well as several specific standard scores from the WISC and the number of words given in the spontaneous responses to the Rorschach.

The ranges on the five second-order factor scores for the high and low achieving groups are shown below along with the percentage of children in the low achieving group who exceeded the mean of the high achieving group in each case. It should be clear that the larger the percentage, the greater the overlap between the groups.

Second-Order Factor	Range of Scores High Group	 Low Group	Percentage of Low Achievers Exceeding Mean of High Achievers
Positive Self and Projected Image	261-501	198-472	9%
Cognitive-Ego Efficiency	192-537	146-462	10
Parental Concern	111-245	92-240	26
Motivation and Productivity	-105-343	-180-330	35
Positive Expressed Attitudes	623-860	547-864	60

From these data, it is obvious that the ranges of scores for high and low achieving groups were close, but the percentage of children in the low achieving group exceeding the mean of the high achievers varied considerably from area to area. Thus, on the Positive Self and Projected Image factor score and the Cognitive-Ego Efficiency factor score, the percentages of low achievers exceeding the mean of the other group were respectively only 9% and 10% while on the Positive Expressed Attitudes factor score the proportion reached 60%.

Similar findings were evident for the standard scores on the WISC and the number of words given to the Rorschach. The results are shown below.

Test Item	Range of Scores High Group	 Low Group	Percentage of Low Achievers Exceeding Mean of High Achievers
Information	7 - 20	5 - 11	0%
Vocabulary	9 - 18	1 - 13	1
Comprehension	4 - 19	3 - 16	7
Similarities	4 - 18	3 - 14	11
Block Design	4 - 13	0 - 11	31
Picture Completion	6 - 20	4 - 17	36
Number of Words to Rorschach	27 - 579	28 - 538	43

Clearly, data like these demonstrated two points, first, the extent of variability in the entire sample and, second, the degree of overlap between the achievement groups. It is also apparent that the two groups were most differentiated in those aspects directly related to school activities and came closer together in those modalities that are less academic, but nevertheless could be utilized more fully by the schools. Finally, it is important to emphasize that the two achievement groups were not as differentiated in the aspects shown above as they were in the selection variable of school achievement. While such findings are to be expected as a result of regression to the mean due to lack of perfect reliability, the extent to which this occurred was greater than would reasonably have been expected from regression effect alone. A recent study (47) which also questioned an oversimplified view of lower-class children, found greater variability in measures of conceptual level among them than among middle-class children, along with considerable overlap between the two class levels.

Challenges to Current Views

In addition to exhibiting greater variability than has usually been attributed to lower-class children, the average performance of our two groups of subjects questioned some widely held and probably overgeneralized views.

Language Deficiency

While the verbal deficiencies of the lower class have been most stressed, we found that our children performed more poorly on nonverbal tasks such as the WISC performance subtests, both in relation to their own verbal scores and to established norms. This applied not only to the high achievers, where school success and relatively good verbal ability might be expected to go hand in hand, but even to the low achievers. Previous studies of Negro children and adults have also described this phenomenon (62).

Despite the distinctive pattern noted above, the inclusiveness of the Perceptual-Conceptual Accuracy factor, on which a broad band of verbal and nonverbal abilities loaded, suggested that the group as a whole was comparatively global in cognitive functioning. Mitchell (70) made a similar observation for children from low socio-economic levels noting that they were less differentiated in intellectual abilities than children from higher levels.

A further look at the verbal domain showed that while the low achievers were relatively poor in specific vocabulary knowledge and information, as well as in written work, the children in both groups could use oral language for communicative and expressive purposes, albeit in dialect, as evidenced in their Rorschach responses and in their stories to pictures. Also, their verbal material sometimes incorporated considerable complexity when it was evaluated without reference to standard English usage. It may well be, however, that although these children are by no means inarticulate, they may not have learned sufficiently to use language as a cognitive tool, particularly in analyzing problems. This could be one reason for their relatively poor performance in tasks like Block Design and Mazes, and their presumed difficulty in making the transition from concrete to abstract modes of thought (86).

Difficulty in the use of language at a conceptual level would be in line with Bernstein's formulation (9) of the differences between the functions of middle-class formal language and lower-class public language. The finding in this study, however, was that the high achievers were superior to the low achievers in most language functions, especially those involving precision and structure. Since the high achievers came from homes with somewhat better circumstances, one might hypothesize a continuum in the use of elaborated language patterns as one moved up from lower-lower to upper-lower to middle-class environments. It is also possible that Bernstein's work on lower-class British subjects may not be equally applicable to the Negro lower class in the United States. Perhaps the latter group has a richer linguistic context at least for expressing personal intent, although not perhaps for abstract relationships.

Productivity of Ideas

The view that the children of poverty are necessarily impoverished in ideational capacity was challenged by the evidence relating to productivity of ideas and general responsiveness of the group in verbal and nonverbal areas. Both the high and low achievers gave a variety of Uses for Objects and responses to the Rorschach, the latter being comparable to norms for their age. Of interest here is a related finding by Iscoe and Pierce (49) that Negro children were superior to white children in verbal divergent production.

The fertility of imagination expressed in the Drawing Completion task by both the high and low achievers surprised the testing staff, although no norms are available for comparisons of this group to other populations. The protocols included with the appended case studies illustrate the kind of drawings produced.

In scores for creative quality of the drawings and for originality, however, the high achievers surpassed the low and, similarly, they gave more good original responses to the Rorschach. Conversely, the high achievers gave fewer bizarre original Rorschach responses and fewer inaccurate uses for objects. Thus, within the relatively similar quantity of production, the high group achieved somewhat better quality and accuracy.

Cognitive Style Variables

The study investigated a number of dimensions which may be broadly considered as evidences of cognitive style. The findings, although sometimes contradictory, were suggestive of certain differences related to achievement. The data are also interesting to discuss in the light of current views of lower-class cognitive style.

Such characteristics as speed of response, caution, and curiosity, viewed as components of cognitive functioning, have until recently received little attention in the psychological literature. Since our previous studies (26, 27) had observed that high achievers were distinctly different from low achievers in displaying more caution, combined with generally slower response tempo and fewer words, two direct measures of caution were employed in this investigation, and whenever possible, time and number of words used were noted. It has also been suggested (76) that caution may be a component of behavior in object sorting tasks, the more cautious individual forming smaller groups and therefore displaying a relatively narrow equivalence range. This kind of task was also included in our study. Curiosity behavior in connection with cognitive tasks, presumed also to be more characteristic of high achievers, was measured by noting several aspects of the child's behavior in test situations.

Caution The two specific measures of caution significantly differentiated the achievement groups in the expected direction, that is, the high achievers refrained more often than the low achievers from checking answers to fabricated items in the multiple-choice Test of Caution, and they also more often used the neutral position on the Semantic Differential Scales. This behavior was interpreted as showing caution, defined as a need to avoid failure and/or hesitancy in committing oneself to a definite position. It could also be interpreted, however, in the first instance as due simply to a clearer idea of what one knows or does not know and in the second instance, as representing more tempered, differentiated judgments in preference to absolutes.

The two caution scores loaded on the same factor as did the more clearly cognitive measures (Cog I). They have also been found repeatedly in our studies to differentiate achievement groups, even in a middle-class sample. Thus, while different interpretations may be offered, cautiousness as a cognitive style deserves further study in relation to achievement functioning.

With respect to the mean number of groups formed in the Object Sorting task, the two achievement groups were not significantly different, though the high achievers were slightly more disposed to form somewhat fewer, and therefore more inclusive, groups (High Achievers, 10; Low Achievers, 11). It will be recalled, however, that the high achievers, significantly more often than the low, gave good superordinate reasons for their groupings. Since they presumably had greater capacity for conceptual sorting, might it be their cautiousness which inhibited them from setting up broader, more inclusive categories?

The construct of caution also suggested an alternative interpretation of the fact that the high and low achievers responded similarly on the verbal divergent production factor. We have considered this primarily an evidence of the untapped ability of the low achievers. It may be though that the high achievers were in fact capable of producing more responses than the low achievers but, because they were more cautious and controlled, they restricted their output to what they were pretty sure would be accurate and acceptable. The finding that the high achievers asked more questions in the testing situation, viewed in this study as evidence of curiosity, may also be interpreted simply as a desire to be correct, though curiosity behavior has possible deeper implications, as discussed later.

Response Speed   Slowness in responding, considered a concomitant of cautious behavior, had been observed to be more true of high achievers than of low achievers in our previous investigations. The high achievers had also used fewer words and given fewer responses to the Rorschach. These findings were not replicated here but rather the two groups scored similarly on the Response Speed factor which incorporated time and word scores. The fact that these scores did define one factor supported the idea that individuals have a consistent style of responding.

There have been conflicting views of what style might be characteristic of the lower class. One position is that these children are slow, and Riessman supports such a point of view (77). It has also been stated that lower-class children are impulsive and quick to react (10, 53, 81). The present study cannot answer the question of whether the children in our sample were fast or slow in absolute terms, or in comparison to middle-class children, but it is clear that time scores per se did not distinguish between these lower-class achievement subgroups. The numerical scores, however, may not always reflect the underlying process; for example, a quick response based on efficient appraisal of a situation is quite different from a quick thoughtless response.

Though response speed did not distinguish the achievement groups, the data from the other caution measures would suggest that the high achievers are more "reflective" than the low, paralleling the difference which others have found between middle-class and lower-class individuals. (It will also be recalled that the high achievers were rated as having superior emotional controls.)

Curiosity Behavior The items originally specified as measuring curiosity behavior, such as frequency of spontaneous questions and amount of handling of test materials, appeared on one factor, emphasizing the unity of this characteristic. The two Need for Knowledge scores, however, loaded on the major motivational factor.

While the high achievers in this sample were rated as more curious than the low, the amount of curiosity that either group actually possessed relative to a norm cannot be ascertained from these data. But that both groups could have shown greater curiosity was certain from direct behavioral observations and comments made by the examiners. Curiosity behavior requires some self-assertiveness. It was observed that our group of children could better be characterized as being passive in the intellectual sense, rather than aggressive or assertive, at least during the testing sessions.

It has been suggested (47) that personal assertiveness may also be bound up with abstract thinking ability. It is important to find ways of teaching which stress personal assertiveness, curiosity, and abstract thinking, and place less emphasis on personal passivity and concrete thinking.[*] The present school, with its large classes and overworked teachers, does not encourage the personal qualities associated with self-expression and self-development, including abstract modes of thinking, but on the contrary expects and often gets submissive, conforming behavior, especially in the early grades. Such a passive approach to school may easily be transformed into sullen resentment, or eventually, open rebellion in older children who are not successful academically.

Self-Concept

Self-concept, as judged from the total score on the self-appraisal scale, was generally positive, with the mean ratings at the upper end of the possible range. That many children felt favorable about themselves, at least as expressed in response to direct questions, conformed to the usual observations made with devices of this kind. It is not known, however, how other groups would have scored on this instrument.

When the component factors of the Self-Appraisal Scale were considered, it was found that the high achievers were significantly more positive about themselves with regard to personal and social qualities and in academic competence but, at the same time, the low achievers rated themselves as favorably as the high achievers in nonintellectual activities. Feelings of self-competence, so essential to achievement functioning, were probably related to the areas in which the child had been successful, and it is likely that the school can nurture positive self-image through success in learning experiences.

It must be mentioned here that the ratings of self-perception by the clinicians, based chiefly on projective material, were less positive than the self-ratings; their mean ratings did not reach the midpoint of the scale. Apparently, the children expressed more positive feelings about themselves than they manifested in the projective tests, as evaluated by the clinicians.

---

[*] Dr. Abraham Shumsky, Brooklyn College, New York City, is at present preparing materials developing this thesis.

Attitudes and Motivation

The area in which the high and low achievers were most similar concerned expressed values and attitudes. Both groups responded to direct questions or test devices in ways that showed an awareness of the prevailing American Protestant ethic in that they expressed aspirations for continued education and advancement and realized that much would depend on their own efforts to achieve these goals. When the questions involved more subtle choices, however, or when protocols of projective instruments were analyzed, the high group seemed to have more specific achievement motivation, a more dynamic approach to new learning, and greater expectation of success, as well as more differentiated and critical attitudes. Despite the brave front and positive outlook that the low achievers affected, it was clear that many of them were realistic enough to know that the cards were stacked against them. Listen to one little boy when asked what he wanted to be, "A doctor--but I don't read so good."

Even though we cannot compare our sample with a middle-class group on achievement motivation, we can say that the group showed high aspiration since 100% of the children indicated that they wanted to go to college, and over 90% said they preferred academic subjects to other activities in school. Realizing, of course, that this may have been a surface expression, it is nevertheless important that these children understood what is socially desirable.

Generally, both the high and low achievers rated authority figures more positively than negatively, in fact, the expressed attitudes of the low achievers were even more globally favorable than those of the high achievers. These children did not show the resentment of authority that might have been expected. On a deeper level, however, the high achievers had somewhat more positive perceptions of and relations with authority; in turn, the teachers viewed them as being more respectful and submissive.

An interesting sidelight is that while the low achievers rated _others_ more favorably than did the high achievers, the _self_-ratings of the high achievers were more favorable than those of the low achievers.

It is important to recognize that at this age level the great majority of the children are not yet alienated from school. In line with values of the core culture, most of the children, even the lowest ones, expressed the desire to achieve, to be good, to do the right thing, and blamed themselves if they got bad marks. What happens to these expressed needs as the child goes through school may be crucial to his success or failure in school and beyond, as well as to his total personality integration.

Family Structure and Attitudes

As with the traits of the children, variability and not uniformity was characteristic of the family situation even though the families were selected to represent a low socio-economic group. There was considerable range in scores on such items as parental occupational and educational level, care of apartment, and room/person ratio, as well as in the ratings of psychological qualities of the home. The range for variables that reflected socio-economic status suggested that we had not one homogeneous social class in our sample but representation from lower-lower through upper-lower subclasses.

Despite the spread in many status variables, the families were generally rated high on concern for education. The ratings were particularly high for parents of the successful achievers. In fact, parents often seemed overly concerned; their emphasis, however, was directed more toward getting good marks and advancing through school than toward learning per se. A number of parents expressed their own inadequacies by saying that the child was already better educated than themselves, knew more or could read better. Children seemed to be burdened by feelings that they had to "make it" through education, with the added pressure that the Negro should "show them" that he was just as good as the white child. In an attempt to ensure that the child will meet the educational goals as well as grow up to be respectable and obedient (values which lower-class parents emphasize for their children especially when they see them surrounded by the perils of a ghetto neighborhood) many parents in this sample restricted and controlled the child's activities to the point where they blocked avenues through which he might have developed greater independence and self-expression. With such forces operating, it is not surprising that many children in our sample, both high and low achievers, gave evidence of considerable anxiety, timidity and constriction.

The central significance for achievement functioning of having a father in the home, which has often been stressed, is called into question by our data; the presence of a father, or other male, in the home was not related significantly to achievement status nor to any of the differentiating psychological variables studied. Having a father in the home was related, however, to other home factors, particularly occupational level, implying that families headed by men were better off economically. It was observed that the presence of a grandmother sometimes served to establish cohesiveness in the family.

Health

Related to the family's general awareness of the child and concern for his education was the fact that the children, as a group, were judged by the pediatrician to be as healthy as their middle-class counterparts, contrary to what was hypothesized. The families did not neglect the health of their children except in one aspect, that of dental hygiene. Apparently, an educational campaign or additional facilities are necessary here.

A word should be added with regard to the somewhat higher level observed for the home, as well as for physical, attitudinal, and behavioral traits of the children, than would have been predicted by current stereotypes. One reason, of course, is that the stereotypes neglect variability and have emphasized negative qualities. It is possible, however, that the selection process for this study also contributed here. It will be recalled that children with marked deficiencies, whether physical, intellectual, or emotional, were not included in the sample. Such children might very well have come from "hard core," multi-problem families. Further, a large proportion of ghetto social pathology may be concentrated among single adults who do not live in families. It has been pointed out that such individuals are found in greater proportion in Harlem than elsewhere in New York City (44). The homes where school children live, either in natural families or with foster parents approved by social agencies, may be less subject to the worst conditions of slum living.

Sex Differences

It was surprising to find that there were so few significant sex differences in the many aspects studied. It is possible that this lack of psychological differentiation between the boys and girls in our sample may stem from the absence of clearcut sex role identification and expectations. It may also be, however, that sex differences in psychological functioning at the age of 10-11 years are minimal.

In three of the four instances where significant sex differences were found, the girls, as expected, were superior, being more stable emotionally and indicating that they assumed greater responsibility for learning. The boys exceeded the girls, however, on every cognitive factor score, though significantly so only in the nonverbal divergent task. It was noted that the boys in both achievement groups did better than the girls on several verbal subtests of the WISC, for example, even though the two sex groups had the same mean and range on the achievement scores used for selection.

While not significant, the boys showed slightly higher scores on the ego strength factors, in curiosity behavior, and in the potency factor of the Semantic Differential. Scores on the latter factor are likely to be sex-linked, while the somewhat more positive performance on the former items may have been a concomitant of some slight superiority of the boys in intellectual abilities. Also, surprisingly, boys were rated higher by the pediatrician in overall medical status, though this was not significant.

Completely unanticipated was the finding that the teachers did not rate the girls more favorably than the boys - not even in academic effort where it is so frequently believed that girls are more concerned and more interested.

While it had been assumed that the low achieving boys would be the most handicapped of all the subgroups, it was actually the low achieving girls who made the poorest showing on many variables. There is some evidence that achievement behaviors may be influenced more by relationships with the cross-sex parent than with the same-sex parent (11). At this age level, the boys with strong mothers may do fairly well though perhaps prognosis for future maturation is doubtful.

The results cited may stem in part from the selection process in which the boys and girls were chosen to represent similar achievement levels. It may be that for boys to achieve at the same level as girls in our present school situation, they need to have superior intellectual strengths but, on the other hand, they seem to suffer greater anxiety and emotional instability.

Evidence Supporting Current Views

There are several areas in which the prevailing beliefs about the difficulties of lower-class children were supported by the data.

Educational Retardation

Educational retardation of lower-class children, well documented in several studies already cited, was clearly present in the population from which our sample of 160 children was obtained. The statistics were reviewed in Chapter 2 and indicated that only 8% of the children reached grade level in both reading and arithmetic, although the proportion was 15% when based on reading alone or on arithmetic alone. If previous studies can be used to forecast future statistics, the number of children who will be achieving below grade level, as well as the extent of their retardation, will increase as the children advance through school.

Another observation related to the difference between the scores in reading comprehension and arithmetic computation. While some of the high achievers reached tenth grade level in reading, only two children reached middle seventh grade level in arithmetic and most fell below sixth grade. On the average, the high group was reading at middle sixth grade level but performing in arithmetic only at fifth grade level. Children who have mastered the fundamentals of reading can move ahead on their own; arithmetic, however, requires specific instruction. It would seem that the high achievers were capable of doing better in arithmetic and quite likely in reading, too. The low achievers, and indeed the population as a whole, were particularly deficient in the area of reading.

Perceptual-Motor Functioning

The presence of difficulties in perceptual functioning in the lower-class population, perhaps accompanied by poor ability to concentrate, has been pointed out by Deutsch (29) and others. These difficulties seemed to be true also of this group. The children performed relatively poorly in perceptual-motor tasks, making more errors on the Bender than a normative group and receiving relatively low scores on WISC performance tasks. Yet the medical examination, home interviews, and psychological evaluation did not turn up much evidence of brain damage, either in current status or history, and the clinicians considered most of the deficits in perceptual-motor functioning that they saw nonorganic; actually, in only about 10% of the cases was there any suspicion of brain damage.

The perceptual difficulties observed may be due to lack of experience with visual materials and/or insufficient experience with the use of verbal mediation in solving nonverbal tasks, complicated by underlying anxiety and other emotional problems. These deficits might be amenable to specific training, a situation which early childhood educators must confront before a complex conceptual superstructure can be built.

Level of Anxiety

In the findings related to affect and personality dynamics, it seemed that our total sample exhibited considerable anxiety and depressive symptoms, observable not only in their test protocols but also, as noted earlier, in the fact that their behavior in the examining situations was passive and unassertive. Middle-class children of the same age would probably have acted with greater spontaneity and more intellectual aggressiveness. Is it possible that even at this early level, the pressures of lower-class life, and perhaps the particular difficulties that face lower-class Negro children, are making themselves felt?

That the lower class faces greater hazards to mental health has been clearly set forth by Hollingshead and Redlich (46). Although incidence studies of mental illness among children are rare, the evidence there is suggests that mental illness may be more frequent among lower-class children than among middle-class children (4). The boys in this sample were found to have significantly more anxiety and other evidences of emotional disturbance than the girls. This sex difference has been repeatedly supported by statistics on referrals to child guidance clinics.

It is known that projective material often yields signs of disturbance even in children who are functioning satisfactorily. The observations made here, therefore, need to be considered with this in mind.

What emerged from our comparisons of disparate achievement groups, however, was that the high achievers had better emotional controls and could cope well enough with their anxieties to be able to perform at least in the elementary school. This may represent, for a more restricted range, the same relationship to socio-economic status that Hollingshead and Redlich noted, since the families of the good achievers had somewhat higher economic status.

The view expressed independently by the several psychologists who worked with the children or analyzed their protocols was that many children in the high group, however, achieved at great expense, with a restriction of spontaneity and unchildlike seriousness. It may well be that some of the children of this type who scored only slightly above average in fifth grade may have difficulty in maintaining their status in the secondary schools.

Achievement Correlates and Social Class

Lower-Class and Middle-Class Achievers

It has been amply demonstrated in this study that within a lower-class sample, the high achievers were superior to the low achievers in most of the areas studied. Further, the findings supported the view stated in the first chapter of this report that many factors which have been shown to differentiate achievers from underachievers in the middle class also operate in the lower class. The importance of basic cognitive skills and abilities, particularly in verbal areas, was obvious. Also, socio-economic differences were related to academic performance within the relatively limited range of social class included here. Turning to personality traits, many of the same things differentiated high achievers from low achievers within our lower-class sample as have been found in achievement studies of middle-class children. Achievers in both classes appear to have better self-concept, greater ego strength, and more adequate controls. They have better relationships with authority, more mature and academic interests, and a higher degree of specific motivation; they accept responsibility and their anxiety is channeled.

Despite some current views that the lower class has unique styles and culture, the lower-class children and middle-class children who achieve in school presumably arrive by similar pathways. In fact, some high achievers from the lower class may have developed to a greater extent than even the middle-class achiever the behavior and qualities of control and effort that are usually considered more typical of the middle class.

It should be clear, of course, that there is no one kind of middle-class child any more than there is the lower-class child. Getzels and Jackson (36), for example, in studying middle-class achievers found children who could be described as showing a definite creative style and others who tended to be more conforming and less original. This study cannot answer the question of whether the proportion of such types varies by social class, although the data of this study suggested that a conforming style may be more characteristic of our sample of lower-class achievers than a self-confident, autonomous, creative style.

Strengths of the Low Achievers

While the low achievers from a disadvantaged environment did show greater deficiencies than the high achievers, they have certain capabilities and strengths that could be built upon. They were responsive and could produce ideas, as demonstrated in the Rorschach, in Story Telling, and in responses to the Uses for Objects task. Both in verbal and nonverbal situations, many individuals showed a high level of imaginativeness and capacity to use the stimulus material appropriately.

As a group, the low achievers were not significantly different in physical health from the high achievers, nor in fact from children in the general population. Though many had parents who were unsophisticated and had meager educational backgrounds, there was evidence of considerable parental concern and desire for children to succeed in school, and both parents and children professed the values of study and work.

It is ironic that the low achievers were so inadequate in the very areas that should be the special province of the school - the development of specific perceptual and cognitive skills involving accuracy, attention, and memory, as well as higher conceptual processes and the acquiring of information. The phenomenon of cumulative deficit as lower-class children go through school also underlines the fact that the school has not served to develop the abilities and skills required for intellectual achievement.

Interdependence of Cognitive and Self Development

Teacher Appraisal and Self-Concept

It has already been noted that teachers' ratings of children's behavior and children's appraisals of themselves were closely related; such a correspondence between observed behavior and self-appraisal is reasonable to expect and has been noted by others (23). It is worth speculating, however, on how this might have come about and Harry Stack Sullivan's model of the self as being built up from reflected appraisals by others is relevant here. It may be that children come to school with some initial differences in self-concept and in certain behavioral attributes. Whether through better genetic endowment, earlier maturation, better environmental opportunities, or interactions of these influences, the high achievers may well have been somewhat better prepared in language and cognitive skills, in self-control, in attentiveness. The teacher's response to the more favored child is likely to be more positive and to reinforce his view of himself. Since teacher expectations tend to be self-fulfilling, the child is more likely to succeed in school, bringing further confirmation of self-worth while the child who may have started off only slightly deficient may become increasingly convinced that he is a failure. The early establishment of homogeneous classes fixes these perceptions in a mold.

It was also noted that teachers' ratings distinguished sharply between the high and low achievers. The method for obtaining teacher ratings underscored how differently the teachers viewed the two groups. Of the 43 teachers who made ratings of the 160 children, no teacher rated both high and low achievers since they were in different, relatively homogeneous, classrooms. The ratings were not, therefore, direct comparisons of high and low achievers but were made with reference to the amount of time the children engaged in certain behaviors. The fact that all three behavior rating factors were highly related to achievement status, as high as some cognitive and ego factors, pointed up the significance of the relationship between teachers' perceptions and achievement. A study of this sort, done in vivo, cannot of course unravel the fabric of cause and effect. The findings would suggest, however, that the early sorting and labelling that now take place only serve to reinforce what should be eradicated - the feeling among many children that they are less than adequate and the view of teachers that children can be readily typed as good or poor students.

Cognitive and Ego Functioning

The close relationship observed in this study between aspects of ego strength and cognitive performance highlighted in a somewhat different way the interdependence of different areas of the personality. Ego development is likely to be nurtured in a situation which stimulates cognitive growth and learning, with a sense of increasing competence and ability to control the environment. Enhanced ego functioning should facilitate further learning.

The cyclic or spiral nature of this interaction, as well as that of the teacher and self appraisals discussed above, points to the desirability of having early school experiences paced to ensure success with adequate challenge for advancement in an atmosphere that stimulates curiosity and self-reliance and pushes always toward deeper understandings and more abstract thinking. It may well be that increased competence in a suitable classroom climate could be the most potent source of improved self-image and behavioral image, of basic ego strength, and positive mental health.

Even though we recognize that some individuals may have greater capacity than others, a dynamic view of intelligence and behavior would not consider school failure inevitable for any child. Data from experimental learning studies, and the comparatively good performance of low achievers on certain tasks suggest that there is learning potential in every child. It is not parsimonious to invoke the genetic "explanation" of failure until true equality of opportunity in education and society has been tried and found wanting.

CHAPTER 8

CONCLUSIONS AND IMPLICATIONS

Conclusions

Several broad conclusions may be drawn from the findings. In the area of cognitive abilities, the most striking differences between the high and low achievers occurred in conventionally structured verbal informational tasks; the high achievers were also superior in other convergent cognitive skills and conceptual abilities. There was relatively less difference between the achievement groups in linguistic complexity, in creativity, and in curiosity behavior, and no significant differences in verbal divergent ability or in quickness of responding. While the quantity of divergent production was similar, the high achievers had somewhat better quality, including both elements of accuracy and originality. Despite the fact that quickness of responding did not distinguish the two groups, it was noted that the high achievers evidenced a more cautious, reflective style in certain tasks which may account, in part, for their greater accuracy. In sum, the high and low achievers differed most in abilities and skills which are emphasized in the school but were less differentiated in other aspects of cognitive functioning.

At both the surface level of self-appraisal and the deeper aspects of ego strength, including self-realization, controls, and reality orientation, the high achievers surpassed the low achievers. They were also viewed more favorably by their teachers with respect to personal qualities, academic effort, and conformity to authority demands. In fact, the combination of self and teacher appraisal items made up the factor which had the highest correlation with achievement status. Also highly related to achievement, was the constellation of ego strength variables and the major intellectual abilities and interest measures. Thus, school functioning was closely bound up with feelings of self-competence, as well as the teacher's image of the child, and with the interrelated development of cognitive and ego abilities.

Both achievement groups were positive in their expressed attitudes, values and aspirations, with the low achievers revealing even more globally favorable attitudes toward school and authority figures. On the projective level, however, the high achievers were judged to have better relationships with and perceptions of authority figures. Also, the high achievers were more realistic and had specific, directed achievement motivation which, coupled with a somewhat better sense of self-adequacy, might help them to achieve their goals.

It was felt that many of the variables that differentiated our lower-class high and low achievers, such as positive self-concept, compliance with authority, and directed effort, were similar to the traits that had been found to distinguish successful from unsuccessful students in the middle class.

There were several areas in which deficiencies were noted for the entire sample. Tasks requiring perceptual-analytic and organization skills seemed to pose problems, even for a large number of high achievers. Also, many children, particularly among the low achievers, were deficient in the precise use of formal language. In the affective area, there was evidence of considerable tension and anxiety accompanied by generally passive and unassertive behavior, at least as observed in the testing situations. Even when the group as a whole showed deficits, however, the high achievers were less handicapped than the low achievers. They had more effective coping mechanisms and greater emotional stability, though often they resorted to overcontrol and overconformity.

The two achievement groups were not distinguished from each other, and indeed seemed comparable to other populations, in their capacity to produce ideas in open-ended situations, in their social awareness and sensitivity to the environment, in their general physical condition, and in their desire to think well of themselves and to succeed.

Sex differences were minimal but suggested that boys suffer greater anxiety than girls, though, in this sample, their cognitive performance was equal or better.

With respect to the background of the children, it was concluded that the families of the high achievers represented a somewhat better socio-economic level accompanied by generally more favorable psychological climate in the home. Thus, relatively small differences in socio-economic status within the lower-class group studied were related to school success.

Analysis of the relationships among all the variables studied showed that the convergent cognitive abilities factor had the largest number of significant correlations with other personality and behavioral dimensions. The highest correlations for convergent abilities were with academic interests, and academic effort as rated by teachers; these three factors were the ones most closely associated with background items, including socio-economic status and home qualities such as parental concern for education, as well as school attendance record. It appeared that the background variables were more related to the factors that make for conventional school performance than they were to creative, divergent abilities or to personality characteristics.

Implications

In the first place, it was clear that lower-class children cannot be viewed as a monolithic, undifferentiated mass. Considerable variability was observed in the selection criteria of academic achievement and in most other traits measured. Although the subjects came from the high and low extremes of the achievement continuum, separated by a gap of several grades, there was progressively greater overlap between them as one moved from specific school-oriented abilities to those which are less central to school performance. While this may partly be attributed to regression to the mean, the practical importance of the finding is that the school should not oversimplify its classification of children by labelling them as uniformly "good" or "poor" learners.

The tasks in which the high achievers excelled should give clues to the areas in which the other children especially need help. The development of basic cognitive skills of memory and attention, concern for accuracy, precision in the use of language, as well as the building of vocabulary and the teaching of specific informational content, are particularly needed for the low achievers. Undoubtedly, such training should start at very early ages in what is now considered "preschool" (12). Some programs for early compensatory education have recognized this need, but it is essential for such programs to be oriented toward specific cognitive learning, with special attention to language development (8) and to be followed through in the grades.

In some areas, even though high achievers were superior to the low achievers, the absolute level of performance was low enough to suggest that all of these children require specific training. In visual analytic tasks the children may need to be taught more efficient strategies of problem solving as well as to develop their ability to use language as a cognitive tool. For these and other conceptual tasks, the need will become more critical as they move on to the secondary school subjects.

The fact that the high and low achieving groups seemed similar to each other, and in fact to the general population, in ability to produce verbal responses in open-ended and expressive situations has other implications. It suggests that the schools may be overlooking a possible strength in divergent thinking which even the low achievers possess while overemphasizing convergent tasks with the "right" answer. While divergent capacities cannot substitute for the structured thinking required in academic learning, they may provide a springboard that the school can utilize, if only to promote self-confidence and involvement in the learning situation.

Though some of the high achievers were doing quite well, the school must consider whether these children are achieving in the best way. If many among them achieve by means of submissive conformity, at the expense of spontaneity and without a high level of curiosity and involvement, the fruits of their learning may be short-lived.

In line with current attempts to bring school and community closer together, the school should recognize that it has strong potential allies in the families of lower-class children who see education as basically important and indeed, in the children themselves, who also espouse positive values and attitudes toward school.

Finally, several bodies of research on the effects of desegregation point to certain specific recommendations of particular relevance for providing equality of education for lower-class Negro children. A review by Katz (54) on the effects of desegregation concluded with several specific points, one of them proposing that homogeneous ability grouping either be abandoned entirely or modified to allow for periodic reevaluation of children's performance. He also stated, as we have already indicated, that ability grouping "tends inevitably to freeze teachers' expectations as well as children's own self-image, hence it is particularly dangerous in the early grades." We might add here that when homogeneous grouping exists, the classes considered to have more ability tend to get the better teachers.

It would seem that in order to avoid duplicating within a heterogeneous class the same divisions that characterize homogeneous grouping, teachers must have more positive expectations that each child, even among those who come from deprived environments, can learn, given the optimum learning experience for him.

It is particularly important that learning experiences in the preschool and early grades be both stimulating and gratifying. The provision of appropriate experiences to guarantee success and progress for each child would undoubtedly necessitate smaller classes and well-trained teachers. Another outcome of intensive individual attention could well be the alleviation of the considerable anxiety observed among both the high and low achievers in this study; many of these children need the support of sympathetic adults, a need that school personnel may be in a strategic position to meet. A sound and comprehensive program during the early years could provide an educational and psychological substratum for continuing academic achievement.

Coleman (20) emphasized that the quality of teachers mattered more for the achievement of minority group pupils than for others. Further, and this was a new finding of great significance for integration, he pointed out a strong relationship between the achievement of lower-class minority group pupils and the nature of the student body of the school, with their achievement being higher when they were in schools with more advantaged peers. In sum, it seems clear that the school's role as an educative agent is of greater significance for lower-class minority children than for more favored groups.

CHAPTER 9

SUMMARY

Purpose

The primary purpose of this study was to assess the characteristics of successful school achievers from a deprived environment. The investigation covered cognitive, affective, motivational and physical variables, as well as background items. It was deemed important to focus attention on high achievers in this population to counteract the stereotype that lower-class children are necessarily poor academic risks.

It was hypothesized that the high achieving children would surpass the low achieving children in convergent cognitive skills and abilities; in ego strength, self-image and general emotional health; in motivation and attitudes, including relationships to authority; and in health status. It was further hypothesized that girls would be superior to boys in the psychological characteristics examined. Although certain information on home and school background variables was obtained, no specific hypotheses were formulated in those areas.

Subjects and Instruments

The design of the study called for comparison of two groups of children from the high and low extremes of the achievement spectrum. For this purpose, 160 ten year old, fifth grade Negro children living and attending schools in Central Harlem were selected as subjects. In order to obtain 80 children who were achieving at or above grade level in reading comprehension and arithmetic computation and 80 children who were working at approximately two years below grade level, ten schools were canvassed and Metropolitan Achievement Tests were given to a population of over 1300 fifth grade children.

Several criteria, other than achievement level, were set for inclusion in the sample so that the group selected for study would be of lower class status and fall within a broad normal range intellectually, emotionally, behaviorally, and physically. Variability in certain background dimensions was controlled by accepting only children who had started school in the North and whose parents had been born in the United States.

The final sample of 80 high and 80 low achievers, equally divided by sex, had grade equivalent achievement scores in reading comprehension (given at 5.2) that ranged from 4.9 to 10.1 with a mean of 6.45 for the high achievers and, for the low achievers, from 2.0 to 3.4, with a mean of 2.85. There was somewhat less difference between the groups in arithmetic computation scores. Previous achievement records and the current teacher's evaluation of the child's achievement were also considered and had to agree with the achievement test results before the child was included in the sample. In this manner, two distinct achievement groups were identified, having an average difference between the high and low achievement groups of over three and one-half years in reading and two years in arithmetic, with no overlap.

Psychological tests, both individual and group, were administered to all the children to obtain samples of behavior that could provide insight into the cognitive, affective, and motivational aspects of the child's functioning. The tests included such standard procedures as the WISC, Rorschach, Bender, and Story Telling. The other individually administered tests consisted of an Object Sorting task, Uses for Objects and two Free Drawings, one of a person and the other of the child's family. Several paper and pencil group devices assessed attitudes, motivations, and some aspects of cognitive style; these included the Self-Appraisal Scale, Achievement Attitudes Test, Test of Caution, Drawing Completion Task, and Semantic Differential Scale, as well as a written composition on the topic, "The Way I Am in School."

The children were interviewed by the examining psychologists during three individual testing sessions and also rated on their test behavior; their current teachers rated their behavior in the classroom; a pediatrician conducted a comprehensive examination on the basis of which he made several ratings of medical status. Information from school records was obtained to determine a number of school background items, such as attendance record.

To bring together all the psychological material obtained from the objective and projective tests, and the child interview and observation materials, two clinical psychologists independently made evaluations of psychological dynamics for each child using five-point rating scales for such personality dimensions as self-perception, perception of authority, anxiety, hostility and controls.

Finally, a social worker visited the home and interviewed the mother or mother substitute for about one and one-half hours, to ascertain social class level needed for selection purposes, and to obtain information about home variables, including family relationships and attitudes. The interview protocols were subsequently rated by the research staff to assess certain psychological qualities of the home.

Standard scoring procedures for the test materials were used when available. Qualitative material was rated on scales oriented so that the higher values represented the pole hypothesized to be related to superior achievement functioning.

Analysis of the Data

Since there were over 200 scores for each child, a series of factor analyses were performed to reduce the number of scores and provide more reliable and conceptually clearer variables, as well as to identify relationships among them. Eight matrices were developed for the psychological material, two of them incorporating scores from a number of sources, relating primarily to cognitive functioning for the first matrix and to motivational and attitudinal dimensions for the second matrix. The other six matrices were based on scores from individual tests: Rorschach, Achievement Attitudes Test, Self-Appraisal Scale, Semantic Differential Scale, School Behavior Rating Scale and Clinical Appraisal Scales. The eight matrices among them yielded 30 factors and these were used in analyses of variance to test for achievement, sex and interaction effects. Differences were considered significant only if they reached the .01 level of significance. In order to express the degree of relationship that existed between the psychological variables and achievement status, or sex, the significant F ratios were transformed to point biserial correlation coefficients.

The medical examination provided six ratings: overall medical status, neurological status, nutritional status, sexual maturation, vitality and posture as well as height, weight, and other physical measures. These separate items were used to test for achievement and sex differences without preliminary factor reduction.

The home interview yielded information on ten status items, such as room/person ratio, family composition, care of apartment, parental educational and occupational level. The interview material was also used to obtain assessments of five psychological dimensions of the home: structure and orderliness, awareness of the child as an individual, concern for education, general social awareness, and rationality of discipline with regard to poor school marks and to misbehavior. These materials, and the three school attendance items, were not factor analyzed but the individual items were used in the analysis of variance procedure to test for differences in achievement, sex, and their interaction.

The data were reduced further by subjecting to a "second-order" factor analysis the 30 "first-order" factor scores plus the one overall medical status rating, and the five ratings of the psychological dimensions of the home. This procedure yielded five second-order factors which were again used in analyses of variance to test for achievement, sex, and interaction effects. The significant F ratios were, as previously done with the first-order factor scores, transformed to biserial correlations.

Case study materials were appended to serve as illustrative material for some of the group findings.

Findings

The second-order factor scores, which are the most concise summary of the data, will be used to review the major differences and similarities that were found between the high and low achieving groups and between boys and girls. The reader must understand that the first-order factor scores plus the selected physical and home background ratings are integral components of the second-order factors.

Further, some significant relationships that emerged among the major domains studied, that is, the psychological variables, the physical ratings, the school and home background items, will be reviewed.

Achievement and Sex Differences

The factor that was most highly related to achievement status, yielding a point biserial correlation of .65, was named Positive Self and Projected Image. This second-order factor included five self-evaluation factors, three from the Self-Appraisal Scale and two from the Achievement Attitudes Test, plus all three of the factors from the teachers' appraisals of the children's behavior and personality characteristics. The high achievers were more positive than the low achievers in feelings of self-competence, especially in academic qualities and in social and personal characteristics; they, more than the low achievers, assumed responsibility for learning and concomitantly showed greater striving, with an anxious quality. Teachers, to an even greater degree than the children themselves, discriminated the high from the low achievers in their ratings. The teachers perceived the high achievers as possessing more desirable personal qualities, also as showing greater effort in academic work and as being conforming to authority demands.

It was interesting that the factor of Cognitive-Ego Efficiency was not as highly related to achievement level as was the Positive Self and Projected Image factor just discussed. The relationship between the Cognitive-Ego Efficiency factor and achievement status was .55. The high achievers, in contrast to the low achievers, had better developed cognitive skills and abilities in both verbal and nonverbal areas, a greater amount of information, and a more reflective and cautious cognitive style. They also had more intellectual interests. In addition to the cognitive aspects, this factor included ego strength and efficiency variables, with the high achievers exhibiting superior ego-reality integration and self-realization combined with more effective controls; they were judged to be more stable emotionally. Thus, in this area which bridges the gap between the self and reality, the high achievers demonstrated better integrative powers.

The next factor, Parental Concern, was also significantly related to achievement status but not to the same extent as were the first two factors. The correlation with achievement status was only .35. This factor included all five ratings assessing the psychological qualities of the home plus the overall medical status rating. The families of the high achievers were rated as being somewhat superior in that they showed greater concern and awareness about social problems, particularly education. They were more aware of the child as an individual and the homes were rated as being more orderly and structured. Although the overall medical status rating appeared on this factor, perhaps reflecting the parents' concern about the child's welfare, when tested alone at the first-order level, it did not differentiate the two achievement groups.

The family status items were not included in the second-order analysis, but it should be pointed out that the families of the high achievers were differentiated from those of the low achievers especially in the educational and occupational level of the parents and in care of the apartment. The families of the high achievers were probably somewhat better off economically and apparently even small differences in economic level were associated with children's school achievement. It was also observed that the "father or other male in the home" item did not differentiate between the two groups, contrary to much speculation on this point. The one school background item which differentiated significantly was attendance record, with the high achievers having fewer absences.

The last two second-order factors, Motivation and Productivity and Positive Expressed Attitudes, were not significantly related to achievement status; the first showed a correlation of .18 and the second, a negative correlation of -.11.

The *Motivation and Productivity* factor included the cognitive style qualities of response speed and curiosity behavior, general responsiveness and productivity, including language complexity, as well as achievement motivation and anxiety. The children from both groups, when it was possible to compare them to other groups of children, responded adequately to environmental stimuli and showed sensitivity to what was going on around them. They could produce ideas, often commonplace, but sometimes unusual. While both groups were similar in some aspects of drive and aspiration, the high achievers exhibited more specific achievement motivation than did the low achievers.

The lack of significant differentiation on the *Positive Expressed Attitudes* factor was interpreted as possible evidence of greater criticalness of the high achievers or as defensiveness of the low achievers. The low achievers did not differ from the high achievers in feelings of self-competence with respect to nonintellectual tasks; both groups showed concern to about the same extent regarding certain routine aspects of academic work. While, on the surface, the low and high achievers exhibited overall positive attitudes, on a deeper level of analysis, the high achievers showed substantially better relationships with adults and more confidence in the future.

The first three second-order factors encompassing self and reflected image, cognitive and ego abilities, and family conditions, clearly defined the strengths of the high achievers. The fact that the last two factors, including motivation and productivity, and positive attitudes, did not differentiate, implied certain strengths of the low achievers.

A few significant sex differences were observed at the first-order level where the boys were found to show greater tension and anxiety and were judged to be less stable emotionally. The boys exhibited somewhat greater creative ability in a nonverbal task, while the girls assumed greater responsibility for learning. No sex differences, however, emerged at the second-order level of analysis. At the age of the children studied, 10-11 years, sex differences as reflected in differential cognitive, motivational, and affective characteristics are probably at a minimum.

Interrelationships Among the Variables

While correlations among variables were generally low, there was interest in the patterns of relationships that emerged. The most pervasive of all the factors in the psychological domain was Perceptual-Conceptual Accuracy. It had the largest number of significant correlations with the other psychological variables. Especially high were the correlations with academic effort and interests and with conformity to authority demands. This factor was also related to ego qualities such as self-realization, and ability to control one's behavior effectively.

Three of the four self-competence factors identified were related to each other and to other psychological items. The nonintellectual competence factor, however, was independent of the others except for one negative relationship with teacher ratings on conformity to authority demands.

There were a number of significant negative relationships among the psychological variables; several of these were with the ratings of emotional disturbance. The children who were rated as having some emotional difficulty were less likely to do well in cognitive performance, were less inclined to conform to authority demands, and generally felt less positive about themselves, significant people, or schoolwork. Another negative relationship occurred between achievement motivation and optimism, indicating that a need to achieve was accompanied by anxiety about the outcome of one's efforts.

Three factors, Perceptual-Conceptual Accuracy, Academic Interests, and Academic Effort, which had significant intercorrelations, were related significantly and positively to a number of background status items, such as room/person ratio, care of apartment, educational and occupational level of the home, as well as to the ratings of the psychological dimensions of the home and attendance record at school. The one background item that correlated negatively with all three of these factors was number of children in the family. Affective variables, however, such as self-appraisals, ego strength, and personal qualities rated by teachers, had less relationship to the home items.

The physical status items showed little intercorrelation except for the obvious and expected relationships between height and weight, and sexual maturation. There was no material relationship between the physical items and the psychological factor scores.

The cluster of background items that were significantly intercorrelated mirrored overall economic status. For example, the larger the apartment a family had, the better it was cared for, the more likely there were fewer children, the more likely that the mother would be working full or part-time, and that the educational and occupational level would be higher. Of the school items studied, only one, good attendance record, had several significant relationships, all positive, to cognitive performance, personal qualities, concern about good marks and employment of the mother outside the home.

Conclusions and Implications

The main conclusions and implications that were drawn are summarized below.

The cognitive strengths of the high achievers lay chiefly in conventional verbal-informational areas, which they approached with accuracy, cautiousness and considerable control. Although they also possessed better developed conceptual abilities than low achievers with somewhat more originality and creativity, both groups would profit from a learning environment which puts greater stress on active exploration and abstract thinking.

The high achievers were also superior in aspects of self-concept and of ego strength and these were closely tied to the positiveness of teacher perception of them and to their cognitive efficiency, respectively. The factor made up of self and teacher appraisals had the highest correlation to achievement status, followed by the factor comprising cognitive and ego variables. Thus, it seems clear that the development of the self is closely bound up with cognitive growth.

The family's social and economic level and awareness of the child's needs had some relationship to academic achievement functioning but not to the same degree as did the attributes of the self in interaction with school demands. The several health status measures did not distinguish the two achievement groups.

The differences in achievement between our high and low groups did not seem attributable to differences in attitudes and values and only marginally to motivation. In addition to their expressed positive attitudes and desire to succeed, the low achievers had considerable social sensitivity with enough responsiveness and capability in producing ideas to suggest that they can be taught. In these aspects the total sample seemed to be comparable to other populations. It was noted, however, that although the quantity of production in divergent situations was similar for our two achievement groups, the high achievers gave responses of somewhat better quality.

The personality variables that differentiated the high and low achievers in this sample of lower-class children were similar to those that have been reported to distinguish achievers from underachievers in the middle class. Successful achievement in our schools, as they are now constituted, seems to be related to good self-concept, adequate controls, and directed effort, as well as acceptance of authority demands.

Analysis of the relationships among the variables showed that convergent cognitive abilities, academic interests, and academic effort as rated by teachers, had the highest degree of relationship of all the psychological dimensions to variables in the child's background, including socio-economic status and home qualities such as parental concern for education, as well as school attendance record. Thus, the background variables were associated more with factors that make for conventional school success than they were with the creative cognitive abilities or with personality characteristics.

There were some areas in which both high and low achievers had problems. Their perceptual-motor functioning was relatively poor, possibly connected with lack of experience with visual analytic tasks or difficulty in the use of language for problem solving. Further, there seemed to be considerable tension and anxiety in the total sample coupled with intellectually passive and unassertive behavior. Even in these areas, however, the high achievers were less handicapped. They had more effective coping mechanisms though sometimes they were too controlled and conforming.

For this population of 10-11 year old children, the differences in cognitive performance of boys and girls were minimal. The boys, however, showed greater anxiety and less emotional stability.

While the data from this study did not provide direct evidence on antecedent or causal factors in achievement, possibilities were suggested. It may be that the high achievers started with some advantage in the cognitive, ego, and affective areas and came from somewhat better homes. Whatever the source of the initial advantages, the school probably magnifies them through the practice of homogeneous ability grouping and the tendency for teachers generally to show greater approval to the more favored children, thus setting up a self-perpetuating spiral effect. Possibly also, teachers lack an understanding of the learning abilities of lower-class children and their expectations for them are too low.

It was proposed that the task of the school is to develop competence in cognitive and ego areas, particularly for those children who are not now succeeding in school and also to exert added effort to help those who are now performing adequately in school to achieve excellence. We believe that the data of this study lend support to the validity of this goal. It may be that a gap will remain between the high and low achievers but, under appropriate and better controlled school experiences, no child who falls within the "normal" range need experience failure.

REFERENCES

1. Allen, R.L. The structure of the English sentence. New York: Noble and Noble, Fall, 1967.

2. Ames, Louise B., Learned, Janet, Metraux, Ruth & Walker, R.N. Child Rorschach responses: developmental trends from two to ten years. New York: Paul B. Hoeber, Inc., 1952.

3. Ausubel, D.P. & Ausubel, Pearl. Ego development among segregated Negro children. In A.H. Passow (Ed.) Education in depressed areas. New York: Teachers College Bureau of Publications, 1963. Pp. 109 - 141.

4. Baker, J.Q. & Wagner, N.W. Social class and mental illness in children. Teachers College Record, 1965, 66, 522 - 536.

5. Barron, F. The psychology of imagination. Scientific American, 1958, 199, 150 - 166.

6. Bayley, Nancy. How children grow. In Sidonie Gruenberg (Ed.) The encyclopedia of child care and guidance. New York: Doubleday, 1954.

7. Bender, Lauretta. Bender motor-gestalt test: cards and manual of instructions. New York: The American Orthopsychiatric Association, 1946.

8. Bereiter, C. Teaching disadvantaged children in the pre-school. Englewood Cliffs, New Jersey: Prentice-Hall, 1966.

9. Bernstein, B. Language and social class. British Journal of Sociology, 1960, 11, 271-276.

10. Bernstein, B. Linguistic codes, hesitation phenomena, and intelligence. Language and Speech, 1962, 5, 31-46.

11. Bing, Elizabeth. Effect of child rearing practices on development of differential cognitive abilities. Child Development, 1963, 34, 631-648.

12. Bloom, B.S. Stability and Change in Human Characteristics. New York: John Wiley, 1964.

13. Brown, R.C. & Henderson, E. Longitudinal analysis of pupil progress in a public school. School of Education, New York University, 1965 (Mimeo).

14. Bruner, J.S. & Olver, Rose R. Development of equivalence transformations in children. In J.C. Wright & J. Kagan (Eds.) Basic cognitive processes in children. Society for Research in Child Development Monographs, 1963, 28 (2), 125-143.

15. Bureau of Educational Research, Board of Education of the City of New York. Summary of Citywide test results. October, 1965 (Mimeo).

16. Clarke, H. & Jarman, B.O. Scholastic achievement of boys 9, 12, and 15 years of age as related to various strength and growth measures. Research Quarterly, 1961, 32, 155-162.

17. Cohen, J. Factors underlying Wechsler-Bellevue performance of three neuropsychiatric groups. Journal of Abnormal and Social Psychology, 1952, 47, 359-365.

18. Cohen, J. The factorial structure on the WISC at ages 7-6, 10-6, and 13-5. Journal of Consulting Psychology, 1959, 23, 285-299.

19. Cohen, J. Some statistical issues in psychological research. In B.J. Wolman (Ed.) Handbook of clinical psychology. New York: McGraw - Hill, 1965. Pp. 95-121.

20. Coleman, J. Equality of educational opportunity. United States Department of Health, Education, and Welfare, Office of Education, 1966.

21. Coleman, W. & Cureton, E.E. Intelligence and achievement: the "jangle fallacy" again. Educational and Psychological Measurement, 1954, 14, 347-351.

22. Cooper, Bernice. An analysis of the reading achievement of white and Negro pupils in certain public schools of Georgia. School Review, 1964, 72, 462-471.

23. Coopersmith, S. A method for determining types of self-esteem. Journal of Abnormal and Social Psychology, 1959, 59, 87-94.

24. Crandall, V.J. Achievement. In National Society for the Study of Education, 62nd Yearbook, Part I, Child psychology. Chicago, Illinois: The University of Chicago Press, 1963. Pp. 416-459.

25. Crandall, V.J., Katkovsky, W. & Preston, Anne. Motivational and ability determinants of young children's intellectual achievement behaviors. Child Development, 1962, 33, 643-661.

26. Davidson, Helen H., Greenberg, Judith W. & Alshan, L. The identification of caution, a correlate of achievement functioning. Journal of Projective Techniques and Personality Assessment, 1966, 30, 381-384.

27. Davidson, Helen H., Greenberg, Judith W. & Gerver, Joan M. Characteristics of successful school achievers from a severely deprived environment. 1962 (Mimeo).

28. Davidson, Helen H. & Lang, G. Children's perceptions of their teachers' feelings toward them related to self-perception, school achievement and behavior. Journal of Experimental Education, 1960, 29, 107-118.

29. Deutsch, M.P. The disadvantaged child and the learning process. In A.H. Passow (Ed.) Education in depressed areas. New York: Teachers College Bureau of Publications, 1963. Pp. 163-179.

30. Deutsch, M.P. The role of social class in language development and cognition. American Journal of Orthopsychiatry, 1965, 25, 78-88.

31. Deutsch, M.P. & Brown, B. Social influences in Negro-white intelligence differences. Journal of Social Issues, 1964, 20, 24-35.

32. d'Heurle, Adma, Mellinger, Jeanne C. & Haggard, E.A. Personality, intellectual and achievement patterns in gifted children. Psychological Monographs, 1959, 73, 1-28.

33. Douvan, Elizabeth. Social status and success strivings. Journal of Abnormal and Social Psychology, 1956, 52, 219-223.

34. Fredericksen, N. & Messick, S. Response set as a measure of personality. Educational and Psychological Measurement, 1959, 19, 137-157.

35. Gardner, R., Holzman, P.S., Klein, G.S., Linton, Harriet and Spence, D. Cognitive control: a study of individual consistencies in cognitive behavior. Psychological Issues, 1959, 1, 39-45.

36. Getzels, J.W. & Jackson, P. Creativity and intelligence. New York: John Wiley, 1962.

37. Gordon, E.W. Characteristics of socially disadvantaged children. Review of Educational Research, 1965, 35, 377-388.

38. Gowan, J.C. Factors of achievement in high school and college. Journal of Counseling Psychology, 1960, 7, 91-95.

39. Greenberg, Judith W., Gerver, Joan M., Chall, Jeanne & Davidson, Helen H. Attitudes of children from a deprived environment toward achievement-related concepts. Journal of Educational Research, 1965, 59, 57-62.

40. Guilford, J.P. Three faces of intellect. American Psychologist, 1959, 14, 469-479.

41. Guilford, J.P., Wilson, R.C., Christensen, P.R. & Lewis, D.J. A factor-analytic study of creative thinking, I. hypotheses and description of tests. Reports from the Psychological Laboratory, No. 4. Los Angeles: University of Southern California, 1951.

42. Haggard, E.A. Social status and intelligence; an experimental study of certain cultural determinants of measured intelligence. Genetic Psychology Monographs, 1954, 49, 141-186.

43. Hamburger, M. A revised occupational scale for rating socio-economic status. 1957 (Mimeo).

44. Harlem Youth Opportunities Unlimited (HARYOU). Youth in the ghetto. New York: HARYOU, 180 West 135th Street, New York, N.Y. 1964.

45. Hoffman, M.L., Mitsos, S.B. & Protz, R.E. Achievement striving, social class and anxiety. *Journal of Abnormal and Social Psychology,* 1958, 56, 401-403.

46. Hollingshead, A.B. & Redlich, F.C. *Social class and mental illness: a community study.* New York: John Wiley, 1958.

✓ 47. Hunt, D.E. & Dopyera, J. Personality variation in lower-class children. *The Journal of Psychology,* 1966, 62, 47-54.

48. Hunt, J. McV. *Intelligence and experience.* New York: Ronald Press, 1961.

✓ 49. Iscoe, I. & Pierce-Jones, J. Divergent thinking, age, and intelligence in white and Negro children. *Child Development,* 1964, 35, 785-797.

50. Jackson, P. & Messick, S. The person, the product, and the response: conceptual problems in the assessment of creativity. *Journal of Personality,* 1965, 33, 309-329.

51. John, Vera P. The intellectual development of slum children: some preliminary findings. *American Journal of Orthopsychiatry,* 1963, 33, 813-822.

52. Kagan, J. & Moss, H.A. Stability and validity of achievement fantasy. *Journal of Abnormal and Social Psychology,* 1959, 58, 357-364.

53. Kagan, J. & Moss, H.A. Psychological significance of styles of conceptualization. In J.C. Wright & J. Kagan (Eds.) *Basic cognitive processes in children.* Society for Research in Child Development Monographs, 1963, 28 (2), 73 - 124.

54. Katz, I. Review of evidence relating to effects of desegregation on the intellectual performance of Negroes. *American Psychologist,* 1964, 19, 381-399.

✓ 55. Keller, Suzanne. *The American lower class family.* Albany, New York: New York State Division for Youth, 1965.

56. Klausmeier, H.J. Physical, behavioral and other characteristics of high- and lower- achieving children in favored environments. *Journal of Educational Research,* 1958, 51, 573-581.

57. Klineberg, O. Negro-white differences in intelligence test performance: a new look at an old problem. *American Psychologist,* 1963, 18, 198-203.

58. Klopfer, B. & Davidson, Helen H. *The Rorschach technique.* New York: Harcourt, Brace & World Book, 1962.

59. Koppitz, Elizabeth M. *The Bender Gestalt test for young children.* New York: Grune and Stratton, 1964.

✓ 60. Kornrich, M. (Ed.) *Underachievement.* Springfield, Illinois: Charles C. Thomas, 1965.

61. Lavin, D. E. *The prediction of academic performance*. New York: Russell Sage Foundation, 1965.

62. Lesser, G., Fifer, G. & Clark, D. H. *Mental abilities of children from different social class and cultural groups*. Society for Research in Child Development Monographs, 1965, 30, No. 4.

63. Littell, W. M. The Wechsler intelligence scale for children: review of a decade of research. *Psychological Bulletin*, 1960, 57, 132-156.

64. Mackler, B. *The successful urban slum child: a psychological study of personality and academic success in deprived children*. 1964 (Mimeo).

65. McClelland, D., Atkinson, J. W., Clark, R. A. & Lowell, E. L. *The achievement motive.* New York: Appleton-Century-Crofts, 1953.

66. McCloy, C. H. & Young, Norma D. *Tests and measurements in health and physical education*. New York: Appleton-Century-Crofts, 1954.

67. Messick, S. & Hills, J. R. Objective measurement of personality: cautiousness and intolerance of ambiguity. *Educational and Psychological Measurement*, 1960, 20, 685-698.

68. Meyers, Edna. *Self-concept, family structure, and school achievement: a study of disadvantaged Negro boys*. Unpublished doctoral dissertation, Teachers College, Columbia University, 1966.

69. Minuchin, Patricia. *Patterns and correlates of achievement in elementary school children.* New York: Bank Street College of Education, 1965.

70. Mitchell, J. V. A comparison of the factorial structure of cognitive functions for a high and low status group. *Journal of Educational Psychology*, 1956, 47, 397 - 414.

71. Moss, H. A. The influence of personality and situational cautiousness on conceptual behavior. *Journal of Abnormal and Social Psychology*, 1961, 63, 629-635.

72. Osborne, R. T. Racial differences in mental growth and school achievement: a longitudinal study. *Psychological Reports*, 1960, 7, 233-239.

73. Osgood, C. E., Suci, G. T. & Tannenbaum, P. H. *The measurement of meaning*. Urbana: University of Illinois Press, 1957.

74. Pasamanick, B. & Knobloch, Hilda. The contribution of some organic factors to school retardation in Negro children. *Journal of Negro Education*, 1958, 27, 4-9.

75. Pavenstedt, Eleanor. A comparison of the child rearing environment of upper-lower and very low lower class families. *American Journal of Orthopsychiatry*, 1965, 35, 89-98.

76. Pettigrew, Y.F. The measurement and correlates of category width as a cognitive variable. Journal of Personality, 1958, 26, 532-544.

77. Riessman, F. The culturally deprived child. New York: Harper, 1962.

78. Riessman, F. The strategy of style. Teachers College Record, 1964, 65, 484-489.

79. Rosen, B.C. Race, ethnicity and the achievement syndrome. American Sociological Review, 1959, 24, 47-60.

80. Rosenhan, D.L. Effects of social class and race on responsiveness to approval and disapproval. Journal of Personality and Social Psychology, 1966, 4, 253-259.

81. Schwebel, A.I. Effects of impulsivity on performance of verbal tasks in middle- and lower-class children. American Journal of Orthopsychiatry, 1966, 36, 13-21.

82. Semler, I.J. & Iscoe, I. Comparative and developmental study of the learning abilities of Negro and white children under four conditions. Journal of Educational Psychology, 1963, 54, 38-44.

83. Semler, I.J. & Iscoe, I. Structure of intelligence in Negro and white children. Journal of Educational Psychology, 1966, 57, 326-336.

84. Shaw, M.J. & McCuen, J.T. The onset of academic underachievement in bright children. Journal of Educational Psychology, 1960, 51, 103-109.

85. Shuey, Audrey M. The testing of Negro intelligence. New York: Social Science Press, 1966.

86. Siller, J. Socioeconomic status and conceptual thinking. Journal of Abnormal and Social Psychology, 1957, 55, 365-371.

87. Taylor, R.G. Personality traits and discrepant achievement: a review. Journal of Counseling Psychology, 1964, 11, 76-81.

88. Terrell, G., Durkin, Kathryn & Wiesley, M. Social class and the nature of the incentive in discrimination learning. Journal of Abnormal and Social Psychology. 1959, 59, 270-272.

89. Vernon, P.E. Ability factors and environmental influences. American Psychologist, 1965, 20, 723 - 733.

90. Warner, W.L., Meeker, Marcia & Eells, K. Social class in America. Chicago: Science Research Associates, 1949.

91. Wechsler, D. Wechsler intelligence scale for children: manual. New York: The Psychological Corporation, 1946.

92. White, R. W. Motivation reconsidered: the concept of competence. *Psychological Review,* 1959, 66, 297-333.

93. Wittenborn, J. R. A factor analysis of Rorschach scoring categories. *Journal of Consulting Psychology,* 1950, 14, 261-267.

94. Wolf, R. The measurement of environments. In *Proceedings of the 1964 Invitational Conference on Testing Problems.* Educational Testing Service, Princeton, New Jersey, 1965. Pp. 93-106.

95. Yamamoto, K. *Revised scoring manual for tests of creative thinking.* University of Minnesota: Bureau of Educational Research, 1962 (Mimeo).

96. Zigler, E. & de Labry, J. Concept-switching in middle-class, lower-class and retarded children. *Journal of Abnormal and Social Psychology,* 1962, 65, 267-273.

Introduction to Appendices A through T

Appendices A through T provide information concerning the administration and scoring procedures for the various assessment devices used as well as the descriptive results, either in terms of means and standard deviations or in percentages, for the four subgroups: High Achieving Girls, High Achieving Boys, Low Achieving Girls, and Low Achieving Boys, hereafter designated respectively as HiG, HiB, LoG, LoB. The number of cases in each subgroup is always 40 and therefore not specified in the tables; missing data which occurred in scattered instances in the interview and observational material were supplied by using the average or typical score for the subgroup.

Copies of the non-standard tests are included with the score values shown on the form. The title of each test and certain explanatory footnotes have been added; these of course did not appear on the forms given to the children.

Appendix A

Wechsler Intelligence Scale for Children

Ten of the WISC subtests were administered according to standard procedure (91). The examining psychologist scored the record and the scoring was checked by another psychologist.

Results

The means and standard deviations of the scaled scores for the ten WISC subtests used and for the verbal and performance IQ's are shown below for the four subgroups.

	HiG	HiB	LoG	LoB
Information	11.4	12.5	7.2	7.8
	(1.79)[*]	(3.04)	(1.31)	(1.51)
Comprehension	12.4	13.3	8.2	9.6
	(2.87)	(2.82)	(2.47)	(1.79)
Similarities	12.2	12.4	8.4	7.6
	(2.48)	(3.19)	(2.49)	(2.78)
Vocabulary	12.7	13.5	7.2	8.5
	(1.66)	(2.28)	(2.35)	(1.79)
Digit Span	11.3	10.6	8.4	8.9
	(1.91)	(2.81)	(2.21)	(2.23)
Picture Completion	9.6	10.1	7.4	9.0
	(2.34)	(2.51)	(1.64)	(2.53)
Picture Arrangement	10.7	11.0	7.2	8.2
	(2.34)	(2.66)	(2.40)	(2.45)
Block Design	8.2	8.9	5.7	6.9
	(2.71)	(2.70)	(1.66)	(2.12)
Coding	11.4	9.8	8.3	7.2
	(2.95)	(1.99)	(2.26)	(2.31)
Mazes	8.5	8.4	5.9	7.4
	(2.66)	(2.13)	(2.43)	(2.70)
Verbal IQ	112.6	115.4	86.7	90.4
	(7.85)	(12.46)	(8.31)	(7.53)
Performance IQ	97.7	97.6	78.6	84.2
	(10.78)	(8.70)	(7.50)	(9.41)

---

[*] Numbers shown in parentheses are standard deviations.

Appendix B

Rorschach

The Rorschach examination was administered individually to all the subjects. The Klopfer testing procedure and scoring system were used (58). The protocols were scored by the examining psychologists and all scoring was checked by the senior investigator.

Results

The Rorschach scores which were used in the quantitative analysis are listed below along with their means and standard deviations for the four subgroups. Also included was the number of words used in the spontaneous responses to the ten cards. (The complete Rorschach protocols, including verbatim responses and scoring, were used by the clinicians in doing their ratings, see Appendix P).

	HiG	HiB	LoG	LoB
R	19.8 * (10.33)	21.4 (12.03)	17.5 (7.55)	22.8 (11.16)
W	6.2 (3.03)	8.2 (4.44)	6.7 (2.55)	7.0 (3.80)
D+d	10.9 (8.28)	11.0 (8.85)	9.7 (6.69)	13.0 (8.67)
Dd+S	2.6 (3.89)	2.2 (3.70)	1.1 (1.70)	2.8 (3.41)
M	2.0 (1.68)	2.6 (2.24)	1.9 (1.86)	1.7 (1.83)
FM	3.3 (2.52)	4.6 (2.99)	3.1 (1.85)	3.7 (3.71)
Fm+mF+m	0.3 (0.61)	1.0 (1.85)	0.4 (0.77)	0.8 (1.02)
Fk+kF+k	0.03 (0.16)	0.03 (0.16)	0.00 (0.00)	0.05 (0.22)
KF+K	0.2 (0.36)	0.2 (0.59)	0.2 (0.49)	0.2 (0.50)
FK	0.2 (0.52)	0.6 (1.30)	0.1 (0.40)	0.3 (0.56)
F	11.2 (8.96)	9.8 (8.46)	9.1 (6.29)	12.8 (8.22)

(continued)

	HiG	HiB	LoG	LoB
Fc+cF+c	0.8 (1.20)	0.6 (0.74)	0.4 (0.78)	0.9 (0.99)
FC'+C'F+C'	0.4 (0.54)	0.4 (0.58)	0.3 (0.94)	0.6 (0.90)
FC	0.7 (0.72)	0.6 (0.84)	0.6 (1.06)	0.5 (0.82)
CF+C	0.7 (1.11)	1.0 (1.17)	1.3 (1.33)	1.2 (1.18)
P	4.4 (1.66)	4.3 (1.78)	3.9 (1.58)	4.1 (1.73)
0	1.4 (1.50)	1.7 (2.59)	1.0 (1.40)	1.1 (1.44)
0-	0.2 (0.45)	0.4 (0.87)	0.6 (1.13)	0.6 (1.10)
Form Level Rating (FLR)	1.2 (0.30)	1.2 (0.25)	1.0 (0.48)	1.0 (0.32)
Number 2.5 and higher	1.1 (1.28)	1.4 (1.69)	1.2 (1.68)	0.8 (1.38)
Number -1.0 and lower	0.5 (0.78)	0.8 (1.78)	2.4 (3.10)	1.4 (1.85)
H+Hd	3.3 (2.36)	3.3 (2.36)	2.4 (1.82)	3.1 (3.19)
A+Ad	10.5 (6.75)	10.6 (5.69)	9.9 (5.16)	12.0 (6.53)
Number Different Content Categories	4.2 (2.08)	5.2 (2.49)	3.8 (1.80)	4.7 (1.89)
Number Monsters	0.5 (0.85)	1.0 (1.32)	0.5 (0.88)	0.6 (0.78)
Number Rejections	0.5 (0.91)	0.5 (1.18)	0.4 (0.87)	0.3 (0.85)
Average Reaction Time (in sec.)	11.2 (7.12)	9.4 (4.95)	8.4 (4.76)	8.4 (4.29)
Average Response Time (in sec.)	29.3 (18.27)	24.2 (10.70)	25.8 (13.76)	22.3 (9.77)
Number Words Used in Spontaneous Responses	154.2 (74.09)	191.9 (116.31)	177.3 (126.86)	157.7 (91.97)

---

*Numbers shown in parentheses are standard deviations.

Bender Motor Gestalt Test

The Bender Motor Gestalt Test was administered according to the directions used by Bender (7).

Scoring

The Koppitz scoring system, especially developed for the scoring of children's productions, was used (59). This procedure considers 30 possible errors, including eight rotation errors which were analyzed separately.

Results

The means and standard deviations for the two error scores are shown below for the four subgroups.

	HiG	HiB	LoG	LoB
Rotation Errors	1.4 (2.16)[*]	0.9 (1.02)	2.2 (1.62)	2.1 (2.00)
Non-Rotation Errors (e.g., incomplete angles, perseveration, distortion of shape)	0.8 (0.97)	0.9 (1.13)	3.0 (1.91)	2.0 (1.92)

---

[*] Numbers shown in parentheses are standard deviations.

Uses for Objects: "Brick," "Paper," "Knife"

For each object, the child was asked, "Tell me how many uses you can think of for___________." If he gave only one or two uses, he was urged to try harder. The examiner recorded for each object, the child's responses, reaction time, and response time. The child was allowed a maximum of five minutes to respond to each item.

Scoring

Three scores, summed across all the objects, were obtained; the first two scores listed below measure ideational fluency and the third score, spontaneous flexibility.

1. Number of Possible or Correct Uses (e.g., can build a house with "bricks"; "paper" to write on)
2. Number of Impossible or Incorrect Uses, including statements that were not "uses" (e.g., build a piano with bricks; cut yourself with a knife)
3. Number of Categories Required for Grouping Possible Uses - Using previous studies (36, 41) and content analysis of the responses obtained, categories were set up for each object. It worked out that 14 categories were needed in each case. The more popular categories in order of frequency were:

Brick	build a building; use as a weapon; for paving streets or walks.
Paper	use for writing; for drawing; for decoration.
Knife	for cutting or carving food; cutting things other than food; use as a weapon.

Examples of categories infrequently used were: Brick: use to adjust heights; Paper: use for currency or stamps; Knife: use as a screwdriver.

Results

The means and standard deviations for the several scores, including reaction and response times, are shown below for the four subgroups.

	HiG	HiB	LoG	LoB
Number Possible Uses	12.1 (6.66)*	14.0 (7.89)	13.6 (8.21)	13.9 (6.80)
Number Impossible Uses	0.6 (0.82)	1.6 (4.63)	1.8 (2.19)	1.8 (1.46)
Number Categories	8.2 (3.15)	9.4 (3.30)	6.9 (2.68)	8.2 (3.56)
Reaction Time (in seconds)	8.3 (8.56)	9.6 (7.54)	22.1 (25.31)	12.8 (12.79)
Total Response Time (in seconds)	245.8 (156.16)	263.8 (167.29)	232.7 (125.72)	283.6 (131.72)

---

*Numbers shown in parentheses are standard deviations.

Appendix E

Object Sorting

The 41 objects used consisted of 38 familiar, commonplace objects and three unfamiliar objects. The three unfamiliar objects (hatpin, butter molder, coin holder) were pretested with comparable groups of children to establish that they were, in fact, unfamiliar. The 41 objects are listed below, as they were presented to the child. They were arranged in four rows with Row A representing the row closest to the child and Row D, the row farthest from the child.

Row A

Bottle Cap
Crayon (green)
Flashlight bulb
Birthday candle (yellow)
Index card (blue)
Plastic fork (red)
Ping-pong ball (white)
Plastic coated wire (yellow)
Button (white)
Candle holder (yellow)
Coin holder
Nail

Row B

Sand paper
Metal fork
Red pencil
Bobbypin (black)
Candle holder (blue)
Doll's shoe (white)
Soap eraser
Pearl earring
Ivory soap (white)

Row C

Plastic knife (yellow)
Hatpin
Metal Lipstick Case
Padlock (green)
Candle holder (yellow)
Medium candle (blue)
Index card (white)
Metal spoon
Paper triangle (blue)
Screw driver

Row D

Paper triangle (green)
Block wood
Pocket comb
Piece of chalk
Butter molder
Birthday candle (yellow)
Paper circle (red)
Plastic spoon (green)
Toy metal knife
Large candle (red)

The instructions were, "Put the things together that belong together. You may have as many or as few things in a group or a pile as you like, as long as they belong together for some reason. There is no one right way of doing this; everyone does it in his own way. I want you to do it in the way that seems best to you. Please put all the things into their piles or groups. Do you understand? Now, go ahead." After placing the objects into groups, he was asked, "Why do these objects belong together?"

A list of objects in each group, the reason given for the grouping, reaction time, and response time were recorded on a prepared form which also included scales for rating the child's behavior with regard to the amount of questioning about and handling of the three unfamiliar objects.

Scoring

The Object Sorting task yielded the following scores.

1. Number of Groups Formed - This score comprised the number of clearly designated groups including groups of one object when the child identified the one object as a group. Objects left unsorted were not counted in the number of groups. The fewer the groups formed, the broader the equivalence range.

2. Percentage of Superordinate Groups - A group was considered superordinate (14) only if the reason given by the child ascribed some common characteristic to all the objects in the group and the group was open; that is, other objects possessing the same characteristic could be added to the grouping; for example, "they are all toys" (ping-pong ball, doll's shoe, toy fork) or "they are all red" (red index card, large red candle, red plastic fork).

Reasons that indicated a relationship ("pencil and eraser" or "sandpaper and wood"), or identity (2 triangles or 2 forks) or overgeneralized reasons ("different shapes" for triangle and square) were not counted as superordinate groups. If the same superordinate reason was used for several groups as, for example, "paper" for two index cards and again for two paper triangles, it was only counted once. When two reasons were given for the same group of objects, the best one was considered.

3. Amount of Handling of Unfamiliar Objects - The extent to which the child handled the unfamiliar objects in relation to the familiar ones was rated. The three scale points were 0, indicating no difference; 1, some difference; and 2, indicating considerably more handling of the unfamiliar objects.

4. Number of Questions Re Unfamiliar Objects - Note was also made of the number of spontaneous questions asked about the unfamiliar objects.

Results

The means and standard deviations of the several scores are given below for the four subgroups, including reaction and response times.

	HiG	HiB	LoG	LoB
Number Groups Formed	10.4 (3.15)[*]	9.8 (2.50)	10.9 (3.71)	11.6 (3.28)
Percentage Superordinate Groups	48.8 (16.93)	45.6 (17.43)	39.0 (16.23)	43.7 (15.90)
Amount Handling Unfamiliar Objects 0 --------------2 Little Much	0.6 (0.64)	0.6 (0.56)	0.4 (0.47)	0.6 (0.53)
Number Questions - Unfamiliar Objects	0.2 (0.36)	0.3 (0.61)	0.1 (0.30)	0.2 (0.46)
Reaction Time (in seconds)	3.2 (3.86)	2.4 (2.26)	4.7 (6.25)	2.9 (3.07)
Response Time (in seconds)	250.9 (105.84)	281.7 (135.49)	248.9 (89.06)	351.7 (220.14)

---

[*] Numbers shown in parentheses are the standard deviations.

Appendix F

Story Telling Task

Children were asked to tell stories to four pictures, one of which was the standard TAT card of a boy with a violin. The other three were selected, after tryouts, from a set of four pictures, especially drawn for this study, which emphasized young Negro children in learning and peer situations. Each picture was a 6x8 pencil drawing; reduced sketches are included in the order in which they were administered.

The instructions to the children were: "This is a story telling test. I am going to show you some pictures and I want you to make up a story for each one. Tell what has happened before, tell what is happening now, and tell me what is going to happen. You can make up any kind of story you want. Do you understand? Well, then, here is the first picture." No time limit was imposed. The examiner noted reaction time and took the story down verbatim, including colloquialisms.

Scoring

The stories yielded nine attitudinal-motivational measures. Unless otherwise specified, scores were summed across the four stories.

To determine the reliability of the scoring, a sample of 80 stories (given by 20 randomly selected children, five from each achievement/sex group) was independently scored by two raters. The percentage of agreement for the nine variables ranged from 65% to 90%. In view of the substantial agreement for this kind of material, the remaining stories were rated by one of the raters.

Motivational-Attitudinal Aspects

1. Need for Achievement (n Ach) - the degree to which achievement themes were incorporated in the stories. A story which clearly incorporated striving toward a goal, competitiveness, long term involvement, or unique accomplishment received 2 points, e.g., "He was studying very hard because he wanted to get 100 on the test;" 1 point was given for stories reporting merely the performance of a routine task, e.g., "He did his homework;" stories where there was no achievement or task imagery were scored 0.

2. Need for Knowledge (n Know) - the degree to which the child's story showed evidence of curiosity or a desire for knowledge for its own sake. A story was assigned 1 point when this need was present e.g., "He's reading the book to find out about faraway places;" and 0 when it was not evident.

3. Responsibility - A story containing clear evidence that the child assumed some responsibility was scored 1 point, e.g., "He did not play ball because he had to finish his homework first." If there was no statement of this kind, the story was scored 0 for responsibility.

4. Time Orientation - the degree to which the sequence of events in the stories was projected into the future. Stories which related to happenings in the far future, e.g., "When he grew up, he became a famous violinist," were scored 2 points; stories dealing with immediate future, e.g., "He was promoted because

he was good in math" received a score of 1; stories dealing only with the present received a 0.

5. Behavior of the Central Child - the degree to which the behavior of the central child was seen as successful. A score of 2 was assigned to the story if the child was seen as achieving success in any activity, e.g., "He was the best in the class in math;" a score of 1 if the behavior was mixed or neutral; e.g., "He was just sitting and looking," a 0 score for behavior that indicated failure in work or conduct, e.g., "He did not know his math because he didn't pay no attention and he got left back" or "His Mother told him to practice the violin but he went out to play with his friends."

6. Feelings of the Central Child - the degree to which the central child was seen as having positive feelings. A score of 2 was assigned to the story if the child was perceived as happy or friendly; a score of 1 if mixed feelings (sad and glad, bored) were ascribed to the child; a 0 for negative feelings, such as sad, guilty, mad, worried, scared.

7. Authority Behavior - the degree to which the authority figure in Picture 3 was seen as showing concern for the child. If the authority figure was seen as teaching or rewarding, a score of 2 was assigned; if her behavior was mixed, that is both positive and negative, or neutral, e.g., merely telling child what to do, the story was given 1 point; if she was seen as scolding or punishing, it was scored 0.

8. Peer Behavior - the degree to which the "lone" child in Picture 2 was included in the activity of the peer group. If the peers were seen as helping or including the lone child in some way, the story was given 2 points; if the peers were seen as showing mixed or neutral feelings toward the lone child, the story was scored 1; if the peers were seen as excluding or teasing or hurting the lone child, a 0 was assigned.

9. Story Outcome - the degree to which the resolution of the story was positive. If the action was resolved in a happy or socially constructive way e.g., "the boy went home to do his homework," the story was given 2 points; if the resolution was not clearly positive or negative or the story was left unresolved, e.g., "He did not know what to do," it was assigned a score of 1; if the resolution was unhappy or anti-social, it was scored 0.

Results

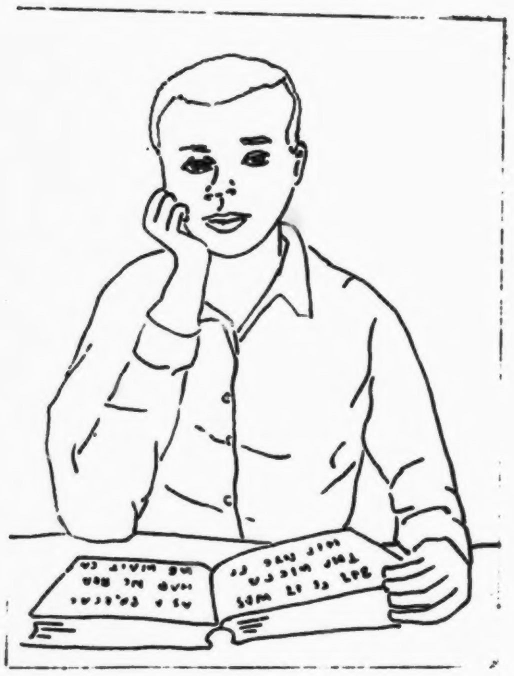
The means and standard deviations of the several scores from the Story Telling Task are shown below for the four subgroups, including reaction time and number of words used in telling all four stories.

	HiG	HiB	LoG	LoB
Need for Achievement (n Ach)	4.2	4.6	3.4	3.4
(0 - 8)[†]	(1.67)[*]	(1.86)	(1.06)	(1.47)
Need for Knowledge (n Know)	0.7	1.1	0.9	0.5
(0 - 4)	(0.85)	(0.99)	(0.88)	(0.72)
Responsibility	0.9	1.5	0.9	0.6
(0 - 4)	(0.91)	(0.96)	(1.01)	(0.66)
Time Orientation	1.8	2.5	1.2	1.6
(0 - 8)	(1.35)	(1.85)	(1.11)	(1.66)
Success of Child Behavior	4.4	5.0	3.7	3.7
(0 - 8)	(1.39)	(1.85)	(1.44)	(1.44)
Positiveness of Child Feelings	2.6	2.9	2.3	2.4
(0 - 8)	(1.52)	(1.67)	(1.56)	(1.69)
Authority Behavior	1.0	1.3	1.2	1.2
(0 - 2)	(0.88)	(0.94)	(0.87)	(0.87)
Peer Behavior	1.2	0.9	1.2	0.8
(0 - 2)	(0.95)	(0.97)	(0.89)	(0.94)
Story Outcome	5.1	5.2	4.1	4.1
(0 - 8)	(1.82)	(2.15)	(2.06)	(1.84)
Reaction Time (in Seconds)	39.1	39.8	36.4	41.2
	(37.04)	(30.83)	(19.03)	(26.97)
Total Number of Words	347.6	385.6	250.2	310.6
	(208.88)	(243.53)	(200.15)	(208.03)

[†] The possible range of scores is given below each variable name.

[*] Numbers shown in parentheses are standard deviations.

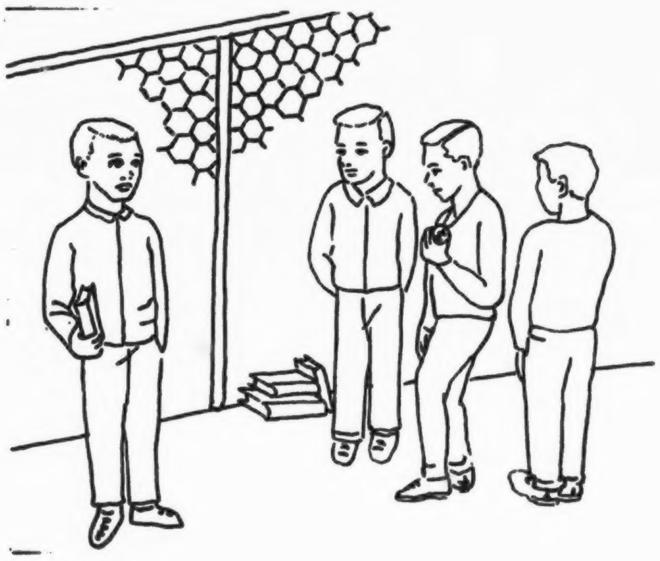
Pictures for Story Telling Task

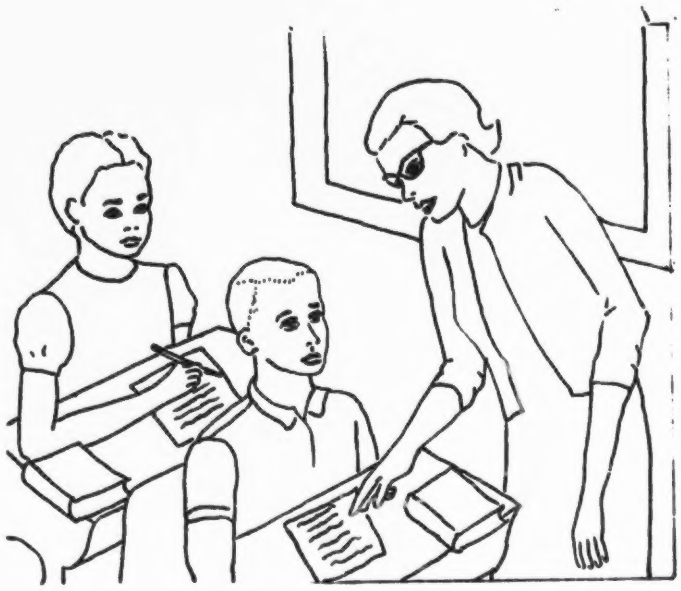


1. Negro Boy with Open Book

2. Single Child and Three Peers

(boys' version; girls' version not reproduced)





3. Teacher in Classroom with Negro Boy and Negro Girl (race of teacher ambiguous)

4. TAT Picture 1 of Boy with Violin

Oral Language Sample : Linguistic Analysis

The linguistic analysis was applied to a 12-sentence sample from the oral Story Telling Task. Story 4 was used as the first source since the story was to a standard TAT card and also because it was presumed that the children were more at ease in telling the story to the last picture in the series than to the earlier ones. If Story 4 did not supply the 12 sentences then stories 3, 2 and 1 were used in that order.

Using Allen's method (1) each sentence was analyzed to determine the number of structural components, namely the number of independent and dependent clauses, of clausids (i. e., a subject plus a predicate with no time orientation, e.g., "the boy going") of predicatids (i. e. a predicate with no time orientation e.g. "going") and of certain special adverbial structures and certain prepositional phrases that the sentence contained.

Each one of these structures occurring within the same sentence was considered as representing another level of complexity. The relationships between structures gave an indication of the "embeddedness" of the language pattern. Embeddedness may be thought of as the dependency or modification of one structure unit upon another. Thus, if a main clause is considered the primary level, a dependent clause or clause equivalent modifying the main clause is considered to be embedded in it at the second level. This dependency clause or clause equivalent, in turn, may have its own dependency clause or clause equivalent modifying it at the third level.

Each sentence was diagrammed on a grid which provided a separate row for each level and columns for indicating the position which each element occupied, using eight standard positions (e.g., introductory position, subject, object-complement).

A person[*] specially trained in these procedures performed the analysis of the sentences and did the scoring as described below.

Scoring

1. Total Depth - the total number of structure levels (rows diagrammed in the twelve sentence sample) i. e. the number of independent or dependent clauses, the number of predicatids and certain special adverbial and prepositional structures. (The range of scores obtained for this group was 15 to 64.)

2. Maximum Depth - the greatest level of embeddedness that the child produced in any one of his twelve sentences, operationally, the largest number of rows diagrammed for a single sentence. (Observed range: 2 to 6)

---

[*] Mrs. Gail Shane, Board of Higher Education, New York City.

3. Beginning Sentence Complexity - the total number of dependent clauses, clausids, predicatids, prepositional and adverbial phrases found in the first part of the sentence, i. e., occurring before the verb. (Observed range: 0 to 8)

4. End Sentence Complexity - the total number of dependent clauses, clausids, predicatids, prepositional and adverbial phrases found in the latter part of the sentence, i. e., occurring after the verb. (Observed range: 2 to 43)

5. Time Sequence - the number of changes in tense within each sentence summed for the twelve sentence sample. (Observed range: 0 to 15)

Results

The means and standard deviations are shown below for the four subgroups.

	HiG	HiB	LoG	LoB
Total Depth	39.7 (9.57)*	35.8 (9.56)	29.1 (8.49)	30.5 (10.40)
Maximum Depth	3.8 (0.79)	3.4 (0.81)	3.2 (0.80)	3.3 (0.88)
Beginning Sentence Complexity	1.9 (2.01)	1.9 (1.90)	1.2 (2.08)	0.9 (1.13)
End Sentence Complexity	20.7 (7.54)	16.8 (7.50)	12.2 (5.73)	14.5 (7.93)
Time Sequence	4.8 (3.03)	3.7 (3.16)	1.4 (2.37)	1.2 (1.78)

---

[*] Numbers shown in parentheses are standard deviations.

Free Drawing Task

Two free drawings, one of a person and the other of the child's family, were obtained from each child in the individual testing sessions. The child was given an 8-1/2 x 11 white bond paper and told first to draw a person. After completing this drawing, he was asked the name, the age, and the activity of the person drawn. The answers were recorded verbatim.

The instructions for the family drawing were: "Now I would like you to draw a picture of your family. Draw all the members of your family and yourself, too." The child was given a second sheet of paper and after drawing and labelling each figure, he was asked the following questions, "Now tell me where they are; what they are doing (or going to do); what they are thinking about; what you are thinking about."

The drawings plus the responses to the questions were used by the two clinicians in the clinical appraisal of psychodynamic variables. (See Appendix P). Quantitative scores were not obtained.

Child Interview Schedule

The child interview schedule was administered in three segments, at two of the individual testing sessions. The text of the questions is given on the following pages along with the results in percentages.

Scoring

The responses were content analyzed and coded. Where applicable, they were scored on an academic vs. nonacademic dimension. For example, a response to Question #1 (What do you like to do after school?) of "read" or "do homework" received a score of 1; a response of "play" or "watch TV" was scored 0. For certain questions which dealt with interpersonal relationships, where the academic/nonacademic continuum was not directly applicable, appropriate categories were developed for each question. Some questions were used in the interview but were not included in the quantitative analysis because they showed little or no variability or because they were not clearly scalable; the results to these questions are included in the tabulation below, however, for the reader's information.

Results

The questions, response categories, score values when assigned and the findings for the four subgroups in percentages are given below. The questions that were given quantitative score values were used in the attitudinal-motivational matrix for factor analysis. The score values are given to the left of the response categories for these questions.

Question:

1. What do you like to do after school? Weekends?

		Percentage of Children			
Score Value	Response Category	HiG	HiB	LoG	LoB
1	Reading, Homework, Study Center	55.0	42.5	57.5	35.0
0	Play, TV	45.0	57.5	42.5	65.0

2. What do you like to do when you are alone?

1	Reading	60.0	42.5	37.5	25.0
0	Nothing, TV	40.0	57.5	62.5	75.0

3. What person would you most like to be like?
(Not coded because responses were too varied.)

Question:

4. What do you like best about school?

		Percentage of Children			
Score Value	Response Category	HiG	HiB	LoG	LoB
	Academic Subjects	92.5	82.5	92.5	95.0
	Semi-academic, nonacademic	7.5	17.5	7.5	5.0

5. What are the reasons for having schools?

	Get an education and a job	55.0	60.0	67.5	60.0
	Get an education	37.5	27.5	30.0	27.5
	Get a job	7.5	12.5	2.5	12.5

6. How do you feel that you are doing in school?

	Good	50.0	57.5	52.5	50.0
	Fair, Poor	50.0	42.5	47.5	50.0

Note: Questions 1 through 6 were asked in the first individual testing sessions usually before the testing began.

7. We wonder what children think about teachers--what are the things that a good teacher does?

1	Teaches, helps you	77.5	85.0	57.5	60.0
0	Does not hit, etc.	22.5	15.0	42.5	40.0

8. If you get a bad mark, what is the reason for it usually?

	Blames self	100.0	100.0	100.0	100.0
	Blames others or outside forces	0.0	0.0	0.0	0.0

9. What do your parents do if you get a bad mark?

5-4	Help, explain, tell to study	60.0	67.5	27.5	45.0
3-2	Scold, deprive of privileges	30.0	20.0	25.0	12.5
1	Beat, whip	10.0	12.5	47.5	42.5

10. What things are wrong to do? What happens when you do something wrong? (Not coded because responses were too varied.)

Question:

11. Do you like to read anything besides your school books? What?

		Percentage of Children			
Score Value	Response Category	HiG	HiB	LoG	LoB
3	Non-Fiction books	27.5	65.0	15.0	27.5
2	Fiction	50.0	32.5	35.0	7.5
1	Newspaper, magazines	15.0	0.0	17.5	17.5
0	Comics	7.5	2.5	32.5	47.5

12. a) Would you like to go to college?

		HiG	HiB	LoG	LoB
	Yes	100.0	97.5	100.0	100.0
	No	0.0	2.5	0.0	0.0

b) Do you think you will?

		HiG	HiB	LoG	LoB
	Yes	95.0	90.0	65.0	77.5
	No; I don't know	5.0	10.0	35.0	22.5

13. What people do you know who have gone to college?
(Not coded because responses too varied.)

14. What is the most fun you have with your family?

		HiG	HiB	LoG	LoB
3	Trips outside the neighborhood	47.5	50.0	40.0	25.0
2	Activities in neighborhood	10.0	20.0	12.5	17.5
1-0	Activities at home or none given	42.5	30.0	47.5	57.5

15. What is supper time like at your house?
(Not coded because responses too varied.)

16. a) What are some of the things your mother does that you like best?

		HiG	HiB	LoG	LoB
3	Interpersonal involvement with child	17.5	15.0	7.5	10.0
2	Does things for child	40.0	57.5	60.0	55.0
1	Routine responsibilities	42.5	27.5	30.0	35.0
0	Nothing or negative	0.0	0.0	2.5	0.0

Note: Questions 7 through 13 were used with the child at the beginning of the third individual testing session.

Question:

b) Father does that you like best?

		Percentage of Children			
Score Value	Response Category	HiG	HiB	LoG	LoB
3	Interpersonal involvement with child	22.5	27.5	7.5	25.0
2	Does things for child	40.0	40.0	37.5	42.5
1	Routine responsibilities	27.5	15.0	32.5	15.0
0	Nothing or negative	10.0	17.5	22.5	17.5

17. What makes your mother happy?

3	Child's good academic performance	32.5	37.5	22.5	27.5
2	Child's good personal qualities	25.0	35.0	10.0	15.0
1	Child's good behavior	27.5	12.5	27.5	22.5
0	Unrelated to child	15.0	15.0	40.0	35.0

18. a) What do you want to be when you grow up?

7	Professions requiring advanced training (doctor, engineer)	15.0	47.5	7.5	15.0
6	Professions requiring college training (Teacher, nurse)	70.0	25.0	72.5	20.0
5-4-3	Skilled manual, clerical, sales	15.0	20.0	20.0	52.5
2-1	Semi-skilled, unskilled	0.0	7.5	0.0	12.5

b) If you don't get to be a ________________, why might it happen?

	Blames self directly ("I didn't study enough")	77.5	75.0	57.5	62.5
	Lack of formal education ("I didn't go to college")	5.0	5.0	22.5	25.0
	Miscellaneous or no answer	17.5	20.0	20.0	12.5

Note: Questions 14 through 18 were used during the third individual testing session after the child drew a picture of his family.

Self-Appraisal Scale

A copy of the Self-Appraisal Scale follows. The 24 items used had been pretested to make certain that they were easily understood by children at the fifth grade level. The directions, as shown, were read by the examiner while the children read silently. The examiner continued to read each word while allowing time for each child to rate himself.

Scoring

Positive words and phrases (numbers 1, 2, 3, 6, 8, 9, 10, 11, 12, 14, 15, 17, 19, 21, 23, 24) were given a score of 3 if the cross appeared in the column, "most of the time;" 2, in the column, "about half the time" and 1, in the column, "hardly ever." The reverse scoring was used for the negative items (numbers 4, 5, 7, 13, 16, 18, 20, 22). The split-half reliability of the test was .77.

Results

The means and standard deviations for the four subgroups are shown below for the total test score on the Self-Appraisal Scale. (For the quantitative procedures, the four factor scores, obtained from factor analysis of the test items, were used.)

	HiG	HiB	LoG	LoB
Total Score (Possible Range: 24 - 72)	60.3 (5.04)[*]	59.7 (3.99)	55.6 (5.93)	55.2 (7.81)

---

[*] Numbers shown in parentheses are standard deviations.

Self-Appraisal Scale

Directions: The words on this page tell different ways children are. Read the words next to each number. Put a cross (X) in one box on each line to show whether you think you are that way MOST OF THE TIME or ABOUT HALF THE TIME or HARDLY EVER.

I THINK I AM:	MOST OF THE TIME	ABOUT HALF THE TIME	HARDLY EVER
1. neat	3*	2	1
2. a big help at home	3	2	1
3. smart in school	3	2	1
4. shy	1	2	3
5. a pest	1	2	3
6. very good in art	3	2	1
7. scared to take chances	1	2	3
8. full of fun	3	2	1
9. a hard worker	3	2	1
10. polite	3	2	1
11. trying my best	3	2	1
12. nice-looking	3	2	1
13. lazy	1	2	3
14. full of questions about new things	3	2	1
15. going to do well	3	2	1
16. sad	1	2	3
17. good in sports	3	2	1
18. careless	1	2	3
19. honest	3	2	1
20. nervous	1	2	3
21. good at making things	3	2	1
22. bad	1	2	3
23. liked by other children	3	2	1
24. as lucky as others	3	2	1

* Numbers in boxes are the score values

Achievement Attitudes Test

A copy of the Achievement Attitudes Test follows. Instructions which were read to the children are shown at the top of the page.

Scoring

Each of the 24 items was scored 1 or 0, the score of 1 indicating the more positive achievement attitude, for example, preference for academic activities rather than play, willingness to delay gratification, assumption of responsibility for academic failure or success. The split-half reliability of the test was .56.

Results

The means and standard deviations of the total score on the Achievement Attitudes Test for the four subgroups are shown below. (For the quantitative procedures, the three factor scores obtained from factor analysis of the test items were used.)

	HiG	HiB	LoG	LoB
Total Score (Possible Range: 0 - 24)	19.8 (2.59)*	19.8 (2.26)	19.0 (2.41)	18.0 (2.72)

---

*Numbers in parentheses are standard deviations.

Achievement Attitudes Test

Directions: Read the two sentences next to every number. Notice that each sentence on this page starts with I WOULD RATHER. Decide which of the two sentences tells best how you feel. Put a cross (X) on the line next to that one.

I WOULD RATHER:

1. __*__ go on a class trip to a museum
____ go on a class trip to the park

2. __*__ learn how a TV set or radio works
____ put together a model of an airplane

3. ____ be good in sports
__*__ be smart in school

4. ____ get $1.00 today
__*__ get $1.50 at the end of the week

5. __*__ have a teacher who makes us work hard
____ have a teacher who tells us lots of jokes

6. __*__ read about things that happened a long time ago
____ make something in school that I can take home

7. __*__ get my homework done
____ see a TV program

8. ____ have my teacher help me do something
__*__ have my teacher let me try it myself

9. ____ finish my work quickly even if there are some mistakes
__*__ spend more time and get my work all correct

10. __*__ look something up in the library
____ work in my reader

11. ____ have my teacher review our work with us
__*__ learn something new in class

12. __*__ buy a book with my money
____ go to the movies

13. ____ have lots of friends in my class
__*__ get the best marks in my class

NOW TURN THE PAGE

[*] The starred choices were considered the positive response and assigned a value of 1; the other choice was rated zero.

14. When we get our report cards
__*__ I feel bad if I don't get a high mark
_____ it's OK as long as I pass

15. I like it when my teacher
__*__ gives us some homework to do
_____ says there is no homework today

16. When I don't know the answer to a question my teacher asks me
_____ I guess the answer
__*__ I say, "I don't know"

17. I like an assembly program
_____ where we all sing together
__*__ where someone tells us about things in science

18. When I don't do well on a test
__*__ it's because I didn't study hard enough
_____ it's because the teacher did not explain it well

19. When I grow up
__*__ I think I will get a good job
_____ I'm not sure what kind of job I will get

20. When I do better than usual in a subject
_____ it's because the teacher helped me
__*__ it's because I tried harder

21. When I do my arithmetic homework
_____ I don't mind if some examples don't come out right
__*__ I worry about getting all of the examples right

22. When I don't know a word
_____ I ask my teacher
__*__ I look it up in the dictionary

23. When there is a big test
__*__ I worry about how well I will do
_____ I just take it as it comes

24. When I finish high school
_____ I want to get a job to make money right away
__*__ I want to go to college so I can get a better job later on

Semantic Differential Scale

The child received seven sheets with identical sets of 12 rating scales, each sheet headed with a different concept. The sample sheet which appears herein includes all six concepts used, listed in order of administration, specification of the three scale dimensions (Evaluative, Activity and Potency) and the score values assigned.

The instructions were, "In this test, you are going to show how you feel or what you think about certain things. Let us think about BASEBALL" (at this point the children were shown a 10" x 24" demonstration chart with the word BASEBALL written on top followed by the "good-bad" scale). "We want to find out what you think of baseball. Some people think baseball is good and some think baseball is bad and others think baseball isn't good or bad but in-between. If you think baseball is good, put an X in the box next to good. If you think baseball is bad, put an X in the box next to bad, and if you think baseball is a little good put an X in the box closer to good. Or if you think baseball is a little bad put the X closer to bad. If you think baseball is not good or bad, but just in-between put an X in the middle box.

Now look at your paper. Notice that the first thing you are to do is show what TV means to you. (TV was used only as a sample exercise and not included in the final scoring.) The 12 scales were read aloud by the examiner, explaining the procedure as for baseball.

Scoring

A value of 5 was assigned to the end of the scale which was more positive in the case of the four evaluative items; more powerful for the four potency items and more active for the four activity items. Three summary scores for each of the six concepts, one for the evaluative dimension , one for the activity dimension and one for the potency dimension were obtained. Thus, a child received 18 scores, each with a possible range of 4 to 20. In addition, the number of crosses which appeared in the neutral position (the middle box) was obtained and used as a measure of caution with a high number presumed to indicate greater cautiousness.

Results

The means and standard deviations for each concept on the three dimensions are shown below for the four subgroups. In addition, the mean and standard deviation for the number of neutral positions checked is also given.

	HiG			HiB			LoG			LoB		
	Eval.	Act.	Pot.	Eval.	Act.	Pot.	Eval.	Act.	Pot.	Eval.	Act.	Pot.
Mother	19.2 (1.83)*	13.8 (2.44)	13.4 (2.75)	18.8 (1.55)	13.9 (2.73)	12.5 (3.98)	18.9 (2.21)	13.6 (2.70)	14.1 (2.73)	18.6 (1.99)	12.9 (2.66)	13.8 (2.57)
Father	18.2 (2.13)	14.2 (2.70)	15.9 (2.61)	17.5 (2.47)	14.8 (1.98)	17.1 (2.17)	18.3 (2.73)	14.0 (2.51)	15.8 (2.52)	17.6 (2.46)	13.8 (2.94)	16.2 (2.51)
Teacher	17.4 (1.95)	13.7 (2.71)	13.7 (3.15)	15.6 (4.06)	13.8 (2.61)	14.2 (1.20)	15.8 (3.92)	14.2 (2.90)	14.9 (3.28)	17.3 (3.05)	12.8 (2.64)	15.0 (2.83)
Me	17.6 (2.10)	14.5 (1.99)	12.3 (2.44)	17.4 (2.18)	15.0 (2.32)	13.7 (2.75)	18.0 (2.53)	13.9 (2.74)	13.3 (3.19)	17.6 (2.59)	13.4 (2.67)	14.8 (2.83)
Schoolwork	15.2 (3.01)	13.2 (2.13)	14.5 (1.86)	14.6 (3.29)	12.7 (2.26)	13.9 (2.86)	17.6 (3.22)	12.6 (3.02)	14.2 (2.93)	17.4 (2.49)	13.1 (2.45)	14.7 (2.25)
Reading	16.3 (2.35)	12.8 (2.17)	12.8 (1.71)	16.1 (2.53)	12.3 (2.57)	13.4 (2.18)	17.1 (2.81)	12.2 (2.70)	13.9 (3.29)	17.5 (2.37)	12.7 (2.96)	13.5 (2.96)
Number Neutral Positions	27.3 (11.66)			24.2 (13.41)			14.1 (11.44)			18.0 (11.58)		

---

*Numbers shown in parentheses are standard deviations.

Semantic Differential Scales

____________*

good	5**				1	bad (Evaluative)
hot	5				1	cold (Activity)
soft	1				5	hard (Potency)
red	5				1	green (Activity)
small	1				5	large (Potency)
quiet	1				5	lively (Activity)
strong	5				1	weak (Potency)
dirty	1				5	clean (Evaluative)
brave	5				1	scared (Potency)
ugly	1				5	beautiful (Evaluative)
slow	1				5	fast (Activity)
kind	5				1	mean (Evaluative)

Now turn the page and look at the word on the top line. Remember to put a cross in just one box on each line to show what that word means to you.

*The concept to be rated appeared on this line. The concepts are shown below in order of administration:

1. Teacher
2. Me
3. Reading
4. Mother
5. Schoolwork
6. Father

**Extreme score values are given to indicate direction.

Appendix M

Written Composition: "The Way I Am in School"

The children were asked to write on the topic, "The Way I Am in School." Since the chief purpose of this task was to determine their orientation towards learning, they were encouraged to write as much as they could and not to worry about spelling errors (a question they themselves raised). They were allowed to write for as long as they wished; usually this was less than ten minutes.

Scoring

Two ratings were obtained from a content analysis of the composition. A "learning emphasis" rating reflected the child's stress on his role as an active learner in school in contrast to emphasis on carrying out routine tasks or upon non-academic aspects such as conduct or interpersonal relationships. A "need for knowledge" (n Know) rating was obtained as a measure of interest in learning something new or in learning for its own sake. The number of words used in writing the composition was also counted as a measure of written verbal productivity.

Results

The means and standard deviations for the four groups are shown below:

	HiG	HiB	LoG	LoB
Emphasis on Academic Learning				
1 --------------- 4	3.4	3.1	2.8	2.9
Little or None — Much	(0.89)[*]	(1.16)	(1.14)	(1.11)
Need for knowledge (n Know)				
0 — 1	0.2	0.2	0.05	0.02
Not present — Present	(0.38)	(0.43)	(0.22)	(0.16)
Number of Words Written	88.3	73.0	52.3	41.7
	(28.43)	(31.01)	(22.24)	(20.25)

---

[*] Numbers shown in parentheses are standard deviations

Test of Caution

A copy of the Test of Caution follows. The instructions used in administering the test appear on the first page.

Scoring

Caution was defined on this test as the capacity to withhold checking an item if the child did not know the right answer. Of the 30 multiple choice items, 12 included a fabricated stem word, e.g., the child was asked what a "calibran" was. For these questions, none of the four choices offered could possibly be correct. The caution score was the number of choices to the fabricated items which the child did not check. The range of possible scores therefore was from 0 to 48; the higher the score, the more "cautious" the behavior. The other 18 items which had varying numbers of correct answers (0, 1, 2, 3 or 4) served to disguise the real purpose of the test and were not used in this analysis. The split-half reliability coefficient for the 12 fabricated items was .81.

Results

The means and standard deviations for the four subgroups are shown below:

	HiG	HiB	LoG	LoB
Number of Unchecked Choices	39.9 *	38.0	31.9	33.9
(Possible Range: 0 - 48)	(5.58)	(6.14)	(6.24)	(5.15)

---

*Numbers shown in parentheses are standard deviations.

Test of Caution

(The material on this page has been reproduced exactly as given to the children. The following two pages were condensed from four in the original test).

Directions

Here are some questions. Below each question, there are four possible answers. Sometimes, one, two, three, or four answers are right; sometimes, none of the answers is right. If you think one of the answers is right, put a cross (X) next to that one answer. If you think two are right, or three are right, or four are right, put crosses next to all the answers which you think are right. If you think none of the answers is right, or if you do not know, you may leave out that question.

Examples

A. The city we live in is

_____ Boston   _____ New York

_____ Chicago   _____ Hollywood

And now let us do the next questions:

B. An apple is

_____ a fish   _____ a bird

_____ an animal   _____ a rock

C. In a zoo, you can see

_____ elephants   _____ monkeys

_____ bears   _____ tigers

Remember that there may be any number of correct answers -- none, one, two, three or four.

TURN THE PAGE AND BEGIN

5

1. Airplanes
___are trains
___fly in the sky
___land in airports
___are alive

2. Bricks can be made of
___rock
___bark
___clay
___sand

*3. A lemis is like a
___hammer
___screwdriver
___drill
___saw

4. A crane can be used for
___washing dishes
___writing
___building things
___cooking food

*5. A dramb is
___an animal
___a rock
___a flower
___a fish

6. White is the color of
___salt
___snow
___milk
___leaves

7. Louis Pasteur was a famous
___baseball player
___explorer
___artist
___scientist

*8. A kiroscope is used to
___look inside the body
___enlarge a picture
___see the stars
___show a movie

9. To "exonerate" someone means to
___congratulate someone
___praise someone
___tickle someone
___hurt someone

*10. Curt is the color of
___cream
___grass
___the sky
___a rainbow

11. A butcher sells
___meat
___books
___toys
___chicken

12. Bamboo is
___a cake
___an animal
___a game
___a plant

*13. Wishbone Day comes in
___March
___the Spring
___August
___the Winter

14. A clarinet is like a
___flute
___oboe
___boat
___train

*15. Wilma Goodyear is a famous
___nurse
___actress
___teacher
___singer

16. Green is the color of
___grass
___sun
___milk
___leaves

Note: Original instructions were repeated after question number 8

*The starred items are those with fabricated stem words and no possible answer.

17. Nuts belong with

___bolts
___shoes
___windows
___hats

*18. A Barbaron cake is served at a

___Halloween party
___Christmas party
___Birthday party
___Valentine's Day party

19. The opera "Aida" was written by

___Gounod
___Mozart
___Wagner
___Puccini

*20. You use a pirot to

___make bread
___sew with
___cook meat
___write with

21. A lion has

___four legs
___wings
___a tail
___two eyes

22. Red paint mixed with white paint makes

___yellow paint
___brown paint
___pink paint
___orange paint

*23. In building a transply you need

___cement
___bricks
___wood
___stone

24. Backgammon is

___an automobile
___a game
___a piece of clothing
___a food

*25. A winlick is an animal that can

___run
___jump
___swim
___climb

26. A dime is worth

___1 nickel
___5 pennies
___2 nickels
___10 pennies

27. Washington, D. C. is in

___Central America
___South America
___North America
___The Western Hemisphere

*28. Tarpa is a kind of

___car
___tree
___dance
___song

29. There are 31 days in

___March
___July
___June
___September

*30. A calibran usually has

___four wheels
___seats
___a chimney
___windows

Drawing Completion Task

The eight stimuli used in the Drawing Completion Task are reproduced herein. The original form used with the children consisted of two pages with four drawings on each page. The instructions read to the children are shown on top of the page. After the child completed the eight drawings he was asked individually what he had drawn and his responses were recorded.

Scoring

Each of the child's eight drawings was scored for seven aspects assumed to measure different facets of creativity, using procedures adapted from previous investigators (5, 95). The percentage of agreement between scorers for four of the incomplete drawings, using a subsample of 40 children, ranged from 68% to 90% for the seven dimensions.

1. Originality - defined as a drawing which occurred not more than two times in the 160 drawings to the same stimulus.

2. Popularity - defined as the same drawing occurring at least 10 times in the 160 drawings to the same stimulus.

3. Spontaneous Flexibility - the number of different categories used by the child in his eight drawings. The most frequent categories were: human beings (whole or parts), moving vehicles (jeep, train, taxi), geometric forms (circles, squares, rectangles) and animal forms.

4. Asymmetry - drawings that could not be bisected into two mirror-image halves. A score of 3 was given to each drawing judged asymmetrical and 0, if judged symmetrical. In the case of drawings #3 and #7 where the stimuli are asymmetrical, the child was not credited with a score for asymmetry if he merely drew a line and closed the original stimulus lines.

5. Dynamism - the degree to which a drawing showed evidence of activity. A score of 3 was given to drawings which showed strong movement; e.g., rocket, moving taxi or whole animal or human in action; a score of 2 for lesser movement, e.g., smoke from a house, burning candle, laughing face; 0 for a static drawing, e.g., kite with no tail, house, ladder.

6. Complexity - the degree to which the original stimulus lines were embedded or extended in the finished drawing. A score of 3 for an enriched and elaborated drawing, e.g., a dragon embellished with scales (#7); a score of 2 for much extension or embeddedness, e.g., three-dimensional cube (#2), tic-tac-toe with X's and 0's (#1); a score of 1 for some extension or embeddedness, e.g., ladder (#1); a score of 0 if the stimulus was simply closed, or lines following the original stimulus were drawn, for example, a triangle to #5 or #6 left as an S.

7. Fit - the degree to which the original stimulus lines were used cleverly, appropriately and, often parsimoniously, in the completed drawing.

A score of 3 was given to drawings judged as making extremely clever use of the lines, e.g., a Roman number II (#1) or Indian hatchet (#7); a score of 1 for drawings that used the lines well or appropriately, e.g., moon and star (#4) and drinking glass (#1); a score of 0 for drawings where the use of the lines was ordinary or inadequate, e.g., pie (#3) or box or square (#5).

Results

The means and standard deviations for the several drawing completion scores are shown below for the four subgroups.

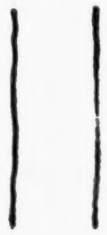
	HiG	HiB	LoG	LoB
1. Number original drawings (0 - 8)[†]	2.4 (1.51)[*]	3.2 (1.75)	1.9 (1.54)	2.4 (1.39)
2. Number Popular Drawings (0 - 8)	2.8 (1.30)	2.6 (1.43)	3.5 (1.62)	3.0 (1.64)
3. Number Categories (0 - 8)	6.2 (1.33)	6.4 (1.22)	5.6 (1.60)	6.3 (1.56)
4. Asymmetry (0 - 24)	7.1 (6.33)	9.9 (6.87)	5.5 (5.47)	7.7 (6.83)
5. Dynamism (0 - 24)	8.6 (4.82)	9.4 (6.68)	3.8 (3.88)	7.6 (6.39)
6. Complexity (0 - 24)	12.0 (4.86)	12.2 (5.33)	7.5 (4.97)	9.9 (5.95)
7. Fit to Stimulus (0 - 24)	16.3 (4.67)	16.9 (6.28)	10.9 (5.81)	14.9 (6.50)

[†] Possible range is given in parentheses below each variable name.

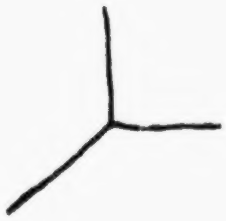
[*] Numbers shown in parentheses are standard deviations.

Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

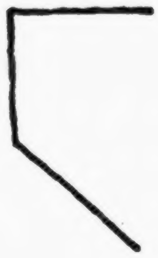
1



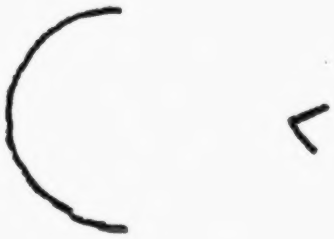
2



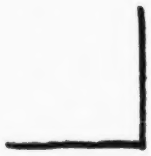
3



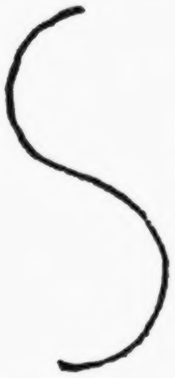
4



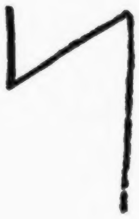
5



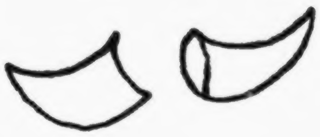
6



7



8



Clinical Appraisal Scales

Two clinical psychologists, working independently, rated the children on a number of personality dimensions using 13 five-point scales. Their ratings were based on the following materials: Rorschach responses and summary scores, the Story Telling protocols, Figure and Family drawings and comments about them, the Bender, Uses for Objects, Drawing Completion Task, Composition on "The Way I Am in School," and WISC deviation scores (using the child's own verbal and performance mean scaled scores). Provision was also made for qualitative judgments such as the types of needs expressed (e.g., nurturance, achievement, independence), defenses used, modes of response to authority, and probable source of perceptual-motor impairment, if observed.

Since there was high interrater agreement (83% to 94%), the two ratings for each scale were averaged and this average was used in all statistical analysis. A high score indicated that a child possessed more of the particular trait, sometimes a positive quality and sometimes a negative one. For example, a high score on the self-perception scale indicates strong positive self-feelings; for hostility, it would indicate a considerable amount of this trait.

Results

The extreme points of each scale are described in the table below which also gives the means and standard deviations for the four subgroups.

	HiG	HiB	LoG	LoB
1. Amount of Anxiety 5------------ 1 (considerable) (little)	3.8 (0.62)[*]	4.1 (0.50)	3.9 (0.59)	4.2 (0.50)
2. Maladaptiveness of Anxiety 5------------ 1 (crippling) (adaptive)	2.5 (0.64)	2.8 (0.58)	2.8 (0.64)	3.0 (0.43)
3. Amount of Hostility 5------------ 1 (considerable) (little)	3.4 (0.58)	3.8 (0.58)	3.5 (0.76)	3.7 (0.55)
4. Overtness of Hostility 5------------ 1 (open) (disguised)	2.4 (0.64)	2.7 (0.76)	3.1 (0.86)	2.8 (0.96)
5. Amount of Control 5------------ 1 (considerable) (little)	3.6 (0.56)	3.5 (0.63)	3.2 (0.86)	3.6 (0.62)
6. Effectiveness of Control 2------------ 1 (effective) (not effective)	0.9 (0.24)	0.8 (0.33)	0.5 (0.39)	0.6 (0.42)
7. Need Hunger 5------------ 1 (considerable) (little)	1.7 (0.20)	1.8 (0.20)	1.6 (0.23)	1.6 (0.23)
8. Self-Image 5------------ 1 (strong) (weak)	2.6 (0.58)	2.3 (0.46)	2.2 (0.50)	2.0 (0.50)
9. Perception of Authority 5------------ 1 (positive) (negative)	2.6 (0.62)	2.5 (0.78)	2.4 (0.86)	2.3 (0.78)
10. Reality Orientation 5------------ 1 (adheres to reality) (not limited by reality demands)	3.2 (0.55)	3.0 (0.46)	2.5 (0.62)	2.8 (0.78)
11. Ideation 5------------ 1 (considerable) (meager)	3.1 (0.70)	3.2 (0.82)	2.4 (0.74)	2.5 (0.88)
12. Perceptual-Motor Impairment 5------------ 1 (severe) (none)	1.5 (0.62)	1.6 (0.65)	2.6 (0.82)	2.2 (0.82)
13. Degree of Emotional Disturbance 5------------ 1 (severe) (almost none)	2.6 (0.57)	2.9 (0.73)	3.2 (0.66)	3.2 (0.64)

---

[*] Numbers shown in parentheses are standard deviations.

Appendix Q

Test Behavior Schedule

The Test Behavior Schedule, developed for use by the examining psychologists, was checked immediately after each of the three testing sessions. For more than 75% of the children, there were three ratings; for approximately 20% there were observations for two of the sessions; for fewer than 5% there was only one rating. Each child's score was the average of the ratings assigned to him in the several sessions.

There was over 95% agreement on five of the scales; between 55% and 95% on another five scales and only one scale (attitude toward own performance) showed less than 55% agreement. The percentages were calculated using the criterion of perfect agreement for two-point scales and agreement within one point for the other scales.

Results

The means and standard deviations for each scale are given below along with descriptive terms to identify the poles of each scale.

Relationship to Examiner	HiG	HiB	LoG	LoB
1. Attentiveness to Examiner				
0 ---------------- 4 Not attentive, fidgets — Listens carefully; receptive	2.7 (0.70)*	2.6 (0.73)	2.5 (0.78)	2.2 (0.68)
2. Seeking Help from Examiner				
0 ---------------- 4 Refuses help — Asks for help freely	2.2 (0.59)	2.1 (0.50)	1.9 (0.59)	2.0 (0.52)

---

*Numbers shown in parentheses are standard deviations.

Reaction to Tasks and Materials			HiG	HiB	LoG	LoB
1. Slowness of Response						
	0 ---------------- Quick to respond	2 Slow, takes time	1.3 (0.37)	1.2 (0.45)	1.4 (0.40)	1.3 (0.40)
2. Amount of Handling of Test Materials						
	0 ---------------- Little or none	2 Much	0.8 (0.64)	1.1 (0.48)	0.6 (0.41)	0.6 (0.49)
3. Frequency of Spontaneous Questions						
	0 ---------------- None	3 Many	0.7 (0.77)	0.6 (0.64)	0.5 (0.59)	0.5 (0.65)
4. Task Elaboration						
	0 ---------------- Very little	3 Much	2.3 (0.33)	2.5 (0.37)	1.9 (0.30)	2.0 (0.37)
Feelings About Self						
1. Attitude Towards Own Performance						
	0 ---------------- Unsure, anxious	4 Highly positive	2.8 (0.84)	3.1 (0.77)	2.1 (1.09)	2.4 (0.98)
Oral Language Usage						
1. Grammatical Correctness						
	0 ---------------- Incorrect	1 Correct	0.6 (0.41)	0.7 (0.31)	0.1 (0.22)	0.2 (0.21)
2. Correctness of Pronounciation						
	0 ---------------- Many errors	2 Standard	1.3 (0.47)	1.3 (0.35)	0.9 (0.34)	0.9 (0.29)
3. Freedom from Colloquialisms						
	0 ---------------- Many	2 Few	1.1 (0.47)	1.1 (0.37)	0.6 (0.37)	0.7 (0.50)
4. Amount of Talking						
	1 ---------------- Very little	4 Over-conversational	2.6 (0.57)	2.8 (0.47)	2.5 (0.63)	2.5 (0.46)

Appendix R

School Behavior Rating Scale

The rating scale used by the teachers to rate the child's behavior in the classroom is shown on the following page.

Scoring

Each of the 26 items was scored from 1 to 5 as shown on the rating scale form. The highest score (5) was assigned when "almost always" was checked for behaviors presumed to be positively related to academic achievement, as well as for negative behaviors rated as occurring "almost never."

Results

The means and standard deviations of the total score for the School Behavior Rating Scale are shown below for the four subgroups. (For the quantitative procedures, the three factor scores, obtained from factor analysis of the test items, were used.)

	HiG	HiB	LoG	LoB
Total Score (Possible Range: 26 - 130)	106.7 (12.13)*	102.2 (15.60)	82.2 (14.48)	80.0 (16.47)

---

*Numbers shown in parentheses are standard deviations.

School Behavior Rating Scale

Child's Name____________________________School____________Class________

For each item below check the one box that best describes how this child typically behaves.

	Almst Alwys	Usu-ally	Some-times	Sel-dom	Almst Never
1. Careful and neat in doing his homework and class work	5*				1
2. Well-liked by other children; chosen as playmate or partner	5				1
3. Listless; tired; easily fatigued	1				5
4. Cheerful; friendly; laughs easily when appropriate	5				1
5. Shows concern about how well he is doing in his work (but is not over-anxious)	5				1
6. Is responsible; can be depended upon to carry out a task	5				1
7. Speaks out of turn	1				5
8. Listens and pays attention when required	5				1
9. Is easily discouraged; gives up if he feels he is not succeeding in new or difficult tasks	1				5
10. Curious; eager to learn new things; asks questions in order to obtain further information or clarification	5				1
11. Good relationship with teacher; accepts and respects authority (but is not subservient)	5				1
12. Fearful; tense; timid; gets upset when called upon in class	1				5
13. Neat and clean in appearance	5				1
14. Does more than required; goes beyond assignment	5				1
15. Submissive; accepts authority without question	1				5
16. Goes to library corner or school library to select books on his own when he has free time	5				1
17. Passive; lethargic; quiet; little evidence of emotion	1				5
18. Considers and plans carefully before answering a question or starting an activity	5				1
19. Eager to succeed; ambitious; puts forth effort to do well	5				1
20. Sullen; resists authority or complies grudgingly	1				5
21. Overanxious about his work; asks teacher unnecessary questions	1				5
22. Volunteers contributions to class discussions and projects	5				1
23. Restless; fidgets in his seat or moves about room	1				5
24. Seeks attention; requires reassurance to complete work	1				5
25. Gets angry easily; gets into fights with other children	1				5
26. Alert and aware of surroundings; uses common sense; practical; realistic	5				1

If you wish to make any comment about this child that may help to explain his level of school achievement, please do so on the reverse side.

*Extreme score values are given to indicate direction.

Appendix S

Pediatric Examination

The schedule used for the pediatric examination is reproduced herein. To summarize the physical findings, the physician rated each child on six scales, with "4" representing the healthier end of the scale and "1" the less healthy pole.

Results

The means and standard deviations of the summary rating scales are shown below for the four subgroups. Findings are also given for height and weight.

	HiG	HiB	LoG	LoB
Overall Medical Status 4 ------------- 1 very good poor	2.4 (0.51)[*]	2.6 (0.62)	2.4 (0.50)	2.5 (0.62)
Nutritional Status 4 ------------- 1 very good poor	3.0 (0.11)	3.0 (0.24)	2.9 (0.15)	2.9 (0.18)
Neurological Status 4 ------------- 1 very good poor	2.8 (0.45)	2.8 (0.48)	2.7 (0.37)	2.7 (0.48)
Sexual Maturation 4 ------------- 1 advanced undeveloped	2.6 (0.55)	2.1 (0.28)	2.4 (0.80)	2.1 (0.40)
Vitality 4 ------------- 1 very good poor	2.6 (0.55)	2.6 (0.60)	2.5 (0.49)	2.5 (0.53)
Posture 4 ------------- 1 very good poor	2.8 (0.34)	2.8 (0.35)	2.6 (0.41)	2.6 (0.42)
Height (in inches)	58.4 (2.87)	56.4 (2.38)	58.6 (3.65)	55.9 (3.04)
Weight (in pounds)	88.1 (25.78)	78.6 (15.61)	92.6 (20.83)	74.4 (12.53)
Age (in months)	125.3 (2.91)	125.4 (3.59)	128.1 (5.42)	127.1 (8.34)

---

[*] Numbers shown in parentheses are standard deviations.

Pediatric Evaluation

Name____________________ B___ G___ School__________ Rm.____ Born_____ Age_____

Significant Illness (by history)

Hospitalized:

Clinic Attendance:

Known illness: (Rheumatic fever, Asthma, Allergy, Epilepsy, etc.)

General Appearance_______________		Neurological Examination:
Skin______________		Cranial Nerves_________________
Head______________		Sensory_________________________
Eyes______________	Fundoscopic________	Motor___________________________
Ears______________	Hearing: R_________	Reflexes________ ________
Nose______________	L_________	________ ________
Mouth_____________	Teeth:Caries_______	Pathological Reflexes__________
	# Molars________	Gait_________________
Throat____________	Tonsils____________	Coordination_________
Mucous Membranes_______		
Neck______________	Thyroid___________	Endocrine____________________
Chest_____________		
Heart_____________	Rate______________	Menarche(Age)_______________
	Blood Pressure____	Lab: Hemoglobin_____________
Lungs_____________		Urinalysis______________
Abdomen__________		
Genitalia_________		
Extremities______	Comments:	
Nodes_____________		

Measures taken by doctor's assistant included:

Height, Weight, Hand Grip (kgs.), Breath Holding (in sec.), Visual Acuity, Hearing (audiometer)

Appendix T

Parent Interview Schedule

The questions asked in the interview with the parent or parent substitute and the observation checklist used by the social worker are reproduced below. The questions have been grouped for presentation here into the five categories that were considered in the summary ratings of family characteristics. Questions used to obtain specific factual information, and the checklist for noting living conditions are listed separately. Scoring procedures are described herein but results are given in Chapter 5, Tables 18 and 19.

I. Questions used for Summary Ratings

A. Structure and Orderliness of the Home

1. What does X do when he comes home from school?
2. Are you at home when the children come home from school?
3. How much time does he spend watching TV?
4. Does he bring friends home with him?
5. Who eats supper with X?
6. We'd like to get some idea of what you let X do and what you don't let him do. Could you tell me?
7. Does X have a specific time to be in at night?
8. Does X tell you where he's going when he goes out? (If no, What do you do about it when he doesn't?)
9. Does X have any jobs around the house? What?
10. Do you ask X to help with his younger brothers and sisters?
11. Does the family do anything together on weekends?
12. Did you send X to Sunday school?

Note: Observations on the care of the apartment and clothing were also considered in rating this dimension.

B. Awareness of the Child as an Individual

13. Tell me something about X.
14. What would make you proudest of X?
15. What would you like him to be? What do you think he would like to be?
16. Does X spend much time with his friends?
17. Are there any special activities after school (hobbies, clubs, lessons, After School Study Center)
18. Does he have homework?
19. What TV shows does X like best?
20. Do you have to keep after him to get him to do the things he's supposed to do?
21. What does he do when he has difficulty with a task?
22. Who does most of the talking at supper? About what?
23. How are X's brothers and sisters doing in school? Does X look up to them?
24. I wonder if you could tell me more about how you and X get along?

Note: Item 6 was also considered in rating this dimension.

C. Concern for Education

25. How is X making out in school?
26. How far would you like X to go in school? How far do you think X will go in school?
27. What kind of high school: a vocational or academic H. S.?
28. Have you discussed plans for college with X?
29. What do you think of the school X goes to? What do you think of X's teacher?
30. Do you visit the school?
31. How well do you think the school is preparing X for the future?
32. How do you think a good education will help X?
33. What subjects does X like best? Least?
34. What would you do if X got a good mark in school?
35. Did X know any of his numbers or how to write his name before he started school? Who taught him?
36. Did X go to nursery school before kindergarten?
37. Did X ask you to read to him when he was younger? What age?
38. How much time does he usually spend on his homework?
39. Does anyone help him with his homework?
40. Where does he do his homework?
41. Do you have any books that he can look things up in?
42. Does he have a library card?
43. Which of your relatives has gone farthest in school? Does X know him or look up to him?
44. Are there any other adults that X is friendly with that he looks up to'
45. What organizations do you belong to? PTA?
46. Would you like X to have a life different in any way from yours? In what ways?

Note: Item 14 was also considered in rating this dimension.

D. General Social Awareness

47. Do you think conditions are better now than they were 5 years ago?
48. What organizations do you belong to?
49. What newspapers and/or magazines do you read?
50. Do you watch the news on TV?
51. What do you think of the civil rights groups?
52. Which one do you think is doing the best job?

Note: Items 45 and 46 were also considered in rating this dimension.

E. Rationality of Discipline

53. What would you do if X got a bad mark in school?
54. What do you do when X misbehaves?

II. Factual Questions on Home and Family

1. What grade did you complete in school? What grade did X's father complete?
2. Are you (mother) working? Part-time or full-time? What kind of work do you do?
3. What kind of work does X's father do? Is he living at home?
4. How many children do you have? Age? Sex? Occupations?
5. Did X have any problems with health when he was growing up?
6. How old were you when he was born? Any problems connected with his birth?
7. Are your parents living with you? Are any married children or other children living with you?
8. How many rooms do you have? How many bedrooms?
   Do you have your own bathroom?
   Do you have your own kitchen?

III. Observation Checklist

1. Apartment:
   - Old Tenement
   - New Project
   - Rooming House
2. Condition of Building:
   - Adequate
   - Deteriorated
   - Poorly cared for
3. Care of Apartment:
   - Clean and neat
   - Poorly cared for
4. Books in Home:
   - Yes No

   TV in Home:
   - Yes No
5. Heating:
   - Adequate
   - Inadequate
6. Ventilation:
   - Adequate
   - Inadequate
7. Clothing:
   - Adequate for weather Cared for
   - Inadequate Neglected
8. People present at interview:

Scoring Procedure for Analysis of Variance

1. Score values are listed below to the right of each category developed for the family and school background status items. The highest score indicated the presumed most favorable end of the scale. The percentages of children in each of the four subgroups who fell into each category are given in Chapter 5, Table 18.

Item	Score
Adult Male in Home	
Father	2
Relative or other male	1
No male	0
Adult Female in Home	
Mother	2
Relative or other Female	1
No female	0
Number of Children (Actual number of children in family)	
Birth Order	
Oldest or only	2
Middle	1
Youngest	0
Type of Dwelling	
Living in Project	1
Not in project	0
Care of Apartment	
Clean and neat	1
Not clean; not neat	0
Room/Person Ratio (Number rooms, exclusive of bathroom, divided by number of people in family)	
Occupational Level[†]	
Skilled: manual & clerical	6,7,8,9[*]
Semi-skilled: manual & clerical	3,4,5[*]
Unskilled: service	2
Not working	1

Item	Score
Educational Level[†]	
High School Graduate	7
Some high school	6
Junior high graduate	5
Some junior high school	4
Elementary school	
5th, 6th grades	3
3rd, 4th grades	2
1st, 2nd grades	1
Work Status of Mother	
Full-time	2
Part-time	1
Not working	0
Attendance at Nursery and/or Kindergarten	
Yes	1
No	0
Number Different Schools Attended	
1-2 schools	7,6
3-5 schools	5,4,3
6-7 schools	2,1
Days Absent Annually	
Under 20 days	2
20 - 30 days	1
Over 30 days	0

[†] Based on the level reached by either mother or father, if living at home, whichever was higher.

[*] The numerical values corresponded to the levels designated by Hamburger (43).

2. The actual ratings assigned for the psychological dimensions of the home were used in the analysis of variance procedure. Each of the following dimensions was rated from 1 to 5, with 5 representing the greatest "amount."

A. Structure and Orderliness of the Home
B. Awareness of the Child as an Individual
C. Concern for Education
D. General Social Awareness
E. Rationality of Discipline
  1. Re Poor School Marks
  2. Re Misbehavior

The percentage of agreement (within one scale point) between two raters for a sample of 24 cases ranged from 83% to 100% for the five scales.

CASE STUDIES

Introduction

The data in this report concerned group findings comparing the major characteristics of high and low achievers from a deprived environment. In order to make more vivid the specific life situations and styles of these children and to give concrete examples of the psychological and background variables considered in the quantitative analysis, ten cases were pursued in depth and are presented in this section.

Several criteria were used for selecting the ten cases. The first set of six cases (A through F) were chosen on the basis of group findings as summarized by the five second-order factor scores. In order to select a "typical" child in each subgroup, insofar as this is ever possible, it was necessary to obtain a set of second-order factor scores for the 160 children in the sample and to calculate means and standard deviations for each subgroup. In each subgroup, one child was selected whose scores on the five factors were close to the means for that group. These four children were designated with the letters "A" (high achieving girl), "B" (high achieving boy), "E" (low achieving girl) and "F" (low achieving boy).

Since the main focus of the study was on the successful achiever, two additional high achievers were chosen. One girl, "C," was particularly high on Positive Self and Projected Image, the second-order factor which most sharply differentiated the high and low achievement groups. Case "D" was a boy with one of the highest Cognitive-Ego Efficiency factor scores and also one of the highest verbal IQ's; his record had been characterized as "particularly interesting" by one of the clinicians.

For these six cases, a second home visit was made to see both mother and child. (In one instance, Case D, the follow-up interview was incomplete). One of the psychologists who had worked on the clinical judgments of all the records conducted these interviews. The major purpose was to obtain further insight into the child's functioning and personality characteristics, and his interpersonal relationships, particularly within the family.

Another set of cases (G, H, J, K) comprised two pairs of children, a high and a low achieving girl (G, H), and a high and a low achieving boy (J, K), who showed similar surface characteristics, such as family composition and parental education and occupational level. Their IQ performance was comparable, representing an overlap zone between the high and low achievement groups with respect to this measure. Thus, for these two pairs of cases, cognitive performance on the IQ measures was controlled and other correlates of differential school achievement sought.

The families of these children were also seen twice, the first time by the social worker who visited the homes of all the children in the study and the second time, almost a year later, by another social worker who conducted a more intensive interview with greater emphasis on parental background and the child's early history.

The reader will note that the ten cases exhibit considerable intra-individual variability. The children had been chosen to represent specific levels on certain complex summary scores (e.g., second-order factor scores, IQ) but since these scores were aggregations of many items, individual children might attain similar summary scores by quite different patterns of strengths and weaknesses. Thus, there is no specific constellation of characteristics embodied in a single child that typifies all the findings for his subgroup.

Verbatim and facsimile materials are included for each of the cases. These should be of interest not only in relation to the specific cases but as illustrations of the children's productions that were referred to in the body of the report. For the Drawing Completions, the initial stimulus was drawn over with a thicker line to emphasize for the reader the point from which the child took off in his productions. Also, children's comments have been added to their drawings.

Case "A" - High Achieving Girl

Age at time of initial study: 10-11	Age at second interview: 13-2
Achievement Test Scores at Grade 5.2	Achievement Test Score at Grade 7.2
Reading Comprehension 7.7	Reading Comprehension 9.6
Arithmetic Computation 5.8	Doing well in all subjects in 7th Grade

Family Composition
  Mother, Stepfather, Grandmother during weekends
  Older Siblings: None
  Younger Siblings: 3 sisters, 1 brother

"A" is characteristically a solemn child and almost unfriendly and resistive in manner. She responds to what is asked of her without wasting words and she often protests that she "can't" but proceeds successfully anyway. She is variously described by our investigators as inscrutable in expression, independent, competitive, bossy, tense, angry, unsure of herself. Her teachers rated her as having positive and negative personal and behavioral qualities. She was viewed by the teacher as "almost always" careful and neat, both in work and appearance; responsible and dependable; and "almost never" as fearful, nervous, restless or attention seeking. She was also rated as well liked by other children, as usually being alert and curious, and showing concern about her work. She is eager to succeed and plans ahead carefully. The relationship to her teacher was rated as being good only "sometimes". Also, the teacher rated her as getting angry easily, getting into fights with other children, not usually cheerful or friendly, speaking out of turn and not always paying attention. Her rating on this School Behavior Rating Scale was 104 out of a possible 130, just slightly below the mean for high achieving girls. Qualitatively, however, the observations were contrary to the more conforming tractable youngsters who rated higher in their teachers' perceptions. Yet A is a high achiever. At the beginning of the fifth grade, when the study was initiated, she rated at the upper seventh grade in reading and the upper fifth grade in mathematics.

A is in "good" condition medically. She has no physical abnormalities. She is of average height for girls but somewhat heavier, although of medium build. She is right-sided in eye, hand and foot preference. Her vision and hearing are excellent.

On the intelligence test, she ranged from a dull-normal level rating through a superior level rating in the various WISC subtests. She had the most difficulty with problem solving items, both verbal and nonverbal. Her superior ratings were obtained in subtests that measured general information, vocabulary and immediate recall of rote material. Active involvement is especially necessary for successful coping with the nonverbal manipulative problems of the WISC. One may remain somewhat more passive or detached when queried about one's fund of knowledge. A's lack of spontaneous participation may have been a factor in her final scoring on the WISC. Her verbal scale IQ was 109, performance IQ 93, full scale IQ 101.

She was not very fluent or giving in her thinking on the Uses for Objects task (she gave 9 possible uses when the average number for high achieving girls was 12). Yet she was sufficiently flexible in her thinking to offer items that grouped into a slightly higher number of categories than average. Her thinking was also sufficiently flexible to sort objects in slightly under the average number of groups for high achieving girls, although in this case she did not do so well in the percentage of superordinate reasons she could give (44% as compared with approximately 49% for high achieving girls). On the whole, however, A's handling of Uses for Objects and the Object Sorting task indicated sufficient flexibility of thinking to have enabled her intellectually to have solved the WISC problem tasks on the same level as her functioning in the other intellectual areas.

Her score in flexibility on Drawing Completion (included) was average for her group. In originality, she was somewhat better than average though it took her a couple of drawings to warm up. In complexity and ingenuity, she was somewhat under the average. While she obtained superior ratings in Information and Vocabulary on the WISC, both bases of verbal functioning, her scores on Similarities and Comprehension were below average. Similarly, the linguistic analysis of her oral language resulted in somewhat less depth and considerably less complexity than average for the high achieving girls. Her knowledge and capacity for learning are not reflected in ability to solve problems or integrate what she knows in verbal contexts. Thus, we see a pattern of basically good ability that is inconsistent in application.

A's perceptual-motor functioning on the Bender Gestalt was immature and unsure, although her basic grasp of the task was adequate. Her Figure Drawings were likewise adequate in basic conception but again somewhat immature, simplified and lacking in detail. She protested that she could not draw before proceeding to do so. She described her smiling figure as "mad". While there was some attempt to improve her productions in both the Bender and the Figure Drawings by erasing and attempting to organize and order, both productions seem somewhat hastily executed.

Likewise, her Rorschach responses, according to the examiner, were "characterized by the minimum of effort she put into creating them." She was very constricted, avoided involvement and tended to preoccupy herself with peripheral detail rather than the essence of the situation she was to deal with. There was an avoidance of feeling and avoidance of dealing with people but yet a need to emphasize a defensively protective potential to ward people off. Her basic thinking processes were intact and she was able to relate herself sufficiently well to see things as others do, but the aspects of herself projected on the Rorschach were that of a rather depressed, withdrawn, constricted, tense, and wary youngster. There was little creativity displayed.

A's Rorschach was much more pessimistic in general outlook than any of the other test results. The Story Telling test elicits an image of optimistic capability and acceptability. The first picture is seen as Countee Cullen working on his next book "maybe about freedom; maybe a book of poems". She authoritatively corrected the examiner's spelling of his name "you spelled his name wrong" and remarked that he had lived in her neighborhood. The identification figure of the second picture (the lone child) is often seen as rejected. A says "they look like they like her and they want her to play with them and they wish she would be their friend". A sees her as sad, however, because "if I was her and she didn't make a good grade, maybe she should go home and study instead of play". In the other two stories, the central figures work to improve themselves. "He's glad the teacher corrected him so that he wouldn't make the mistake again" ; "I guess he'll decide to study harder so that he could make his grade in music". Underlying all but the first, is an unhappiness because of the need to improve in achievement. It is interesting to observe that authority figures are not projected into her stories. The impetus originates with the child. Where an authority figure is present, she is seen merely as a helpful instrument rather than as an initiator of the action of the central figure. On Story Telling, A rates at the uppermost limit in Achievement Need, well above the average for the high achieving girls, also very high in positiveness of feelings projected, and success of child behavior. Qualitatively, her performance with this test may indicate an independence and self-reliance that result from lack of felt need or, at least, a refusal to interact more with authority figures. This self-reliance may be a positive manifestation of the same dynamics exemplified through the Rorschach. Certainly, there is a pervasive sense of struggle, need to overcome inadequacy, inability to permit self-indulgence or enjoyment, and, also, sadness.

On more direct levels, A presents herself as a cooperative, diligent student who tries to improve herself. "I try to bring the right supplies that I need in school every day. I have always worn a white blouse to assembly every Friday. I am very cooperative at some times. I try to be as helpful in school service as I can. If I see something wrong in my work, I try to correct it. I study very hard for tests ......" She gives herself a rating of 62 out of a possible 72 on the Self-Appraisal scale, slightly higher than the average for high achieving girls. While she sees herself as "most of the time" honest, well liked, a hard worker, neat, helpful at home, and "hardly ever" shy, a pest, lazy, careless or nervous, only about "half the time", she does see herself as smart in school, full of fun, polite, or good at making things, "half the time", she's sad and bad, she thinks, and "most of the time", she is scared to take chances. Thus, her conscious self-image is consistent with the unconscious projections in her feeling of wariness, unhappiness and of not meeting expectations, in a setting that is not without optimism and anticipation of success.

In A's Family Drawing (included) her grandmother was drawn first and is the figure drawn with the greatest detail. Next is her mother who is drawn largest, then come her 5,2, and 1 year old sisters, and on the next line, her brother, age 6, then her father drawn as small as herself, who is drawn last. Her grandmother and mother are presented as the most important or dominant figures, her father as tiny in comparison, although she and her father are together in their relative isolation from the rest.

This concept is at variance with the manifest interaction observed in her family. A lives with her stepfather, whose name she has adopted, mother and three younger sisters and one younger brother. Her maternal grandmother lives where she works as a domestic except for weekends. These days off she spends in A's household. Her stepfather is much older than her mother and dominated both the initial interview and the follow-up interview two years later. He expressed the most definite demands and expectations, and indicated that he set the pattern for the family style of living. He is a disabled ("by the hardships of life") veteran who is home all of the time. His wife is also at home all day.

A is closely watched, closely supervised and closely held in a child-centered home. "They were made to realize early what we expected of them. We wouldn't accept anything less than the best .... I'm very stern. I give them freedom to speak, to tell me if they disagree or agree or am too stern. Most of all I try to make things comfortable for them and they appreciate it. The home has been the most important thing. They saw it grow and know it will grow bigger and be ever happier. Their appreciation is shown by doing what I ask. Whatever is short or needs to be accomplished they know I'll get out and fight for." (Stated by stepfather).

Mr. A buys all of A's clothes as well as clothes for his wife and all the other children, without their presence. He says he has good taste, knows what is becoming to them, and is more capable of obtaining the best value. The children are not allowed out to play in the street because the neighborhood is considered bad. "These are not street children. I get nervous even if they are out with my wife and they stay too long." If her stepfather knows the family very well, she may visit with a friend. To provide the children with an opportunity for some social outlet, however, he enrolled the older ones in a well supervised community recreation program. A was hesitant about attending but "there's lots to be learned there. You get to know people, do things, cope with everyday life; I feel it's my duty to prepare them for life to the best of my knowledge. I enrolled her for a purpose. I tell her what's right and she does it." Her mother sees the Center as a place where the children "can scream and yell and have fun and come back relaxed." A is also a Girl Scout but is not enthusiastic about the group. "When I first joined, it was exciting, a new thing. Now I just listen to the Brownies make noise". She has also just begun to go to Sunday school and church. She and her grandmother joined recently and go together.

Expected household chores are to wash dishes and keep the bedroom she shares with her sisters and brother tidy. "I get told to clean it up and I just clean it up." Her mother believes that each of the children should have some responsibility but is not concerned if "sometimes they get done and sometimes not." A's stepfather believes that the children do not have time for helping in the house. He expects them to cooperate by not deliberately making things untidy, but believes that homework and studies have first claim to their time.

A spends from one to two hours a night on her homework. She never has to be reminded. Mrs. A says "you tell them something and sit and wait. Like when they're smaller, you tell them to do their homework; you ask did they, they say no. You sit them down to do it. In a while they know its something they have to do".

Her father thinks she will attend an all girls high school. He says, "boys might interfere but not as long as I'm living.... I don't want to make any errors. So far so good, I don't plan to make mistakes." He thinks it will be to her best advantage to become a lawyer. A says, "I want to be everything - a lawyer, a pediatrician, a nurse." Her mother says, "Law is a good idea but she should go to school, go to college if she wants to, but if she doesn't like it, go to business school." Her father can anticipate no justification for not completing college.

A spent her first six years living in the South with her grandmother, her mother visiting once or twice a year. When she was six years old, she and her grandmother came to New York. Mrs. A had remarried but was living in a single room with her husband and three children so A and her grandmother lived with a relative of her grandmother's for another year. When they were able to get their present apartment, the family was united. They are proud of their home, a small, four-room apartment in a clean but old tenement. The living room is crowded with new furniture, including an elaborate hi-fi set with four speakers and many records. There is also a full set of drums for the eight year old brother who has just begun to study drumming at the Community Center.

A is close to her grandmother who was her sole mother figure for many years. When questioned about the relative severity of the grandmother in comparison to her parents, A described her parents as "more strict". As to her grandmother, "she fusses but she's not strict". During the initial data collecting, when asked whom she would like most to be like, A chose her grandmother, because of her "kindness."

Both A and her parents agreed that they had no areas of disagreement. A is always obedient. As the expectations were further described, however, A remained very glum. She was most spontaneous in describing the unfairness and irascibility of several of her present teachers in the school she attends under "open enrollment". She also spoke disapprovingly of the "bad children" who smoke and leave the school yard at lunch time.

A is subject to intensive molding by a father she apparently reacts to with compliance but mentally cuts down to size as in the drawing of the family. Her pattern of withdrawal, truculence and exaggerated independence is her way of coping with such pressures. The retrenchment and constriction on deep personality levels, reduces the danger of experiencing unacceptable wishes and emotion. There is an apparent spillage over to unwillingness "to take chances," or to develop her creative potential, or the willingness to invest whole-heartedly in exploring new territory or solving problems. On the other hand, she can apply herself to safe facts and master subject matter. This gains approval, meets her own and her parents' demands, and is a form of self-assertion. Underneath, she is unhappy, clings to the "kindness" of her grandmother to whom she really belongs, and is seemingly biding her time until she can emancipate herself to full independence.

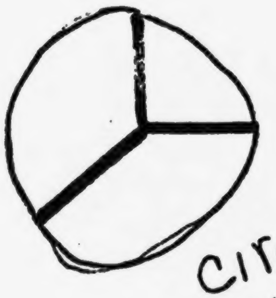
Case "A"

Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1

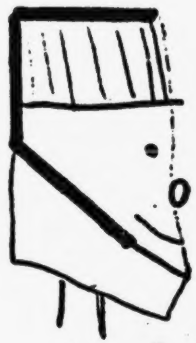
rectangle

2



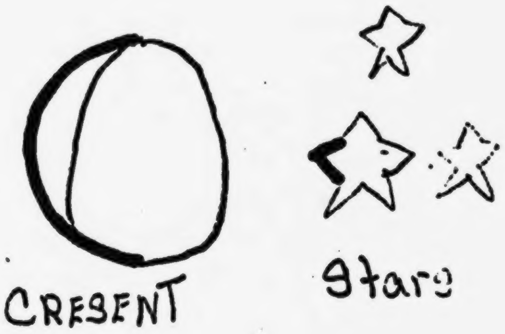
Circle Divided into 3 parts

3



Head of a silly clown

4

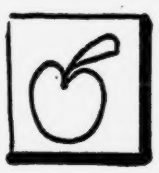


CRESENT Moon

Stars

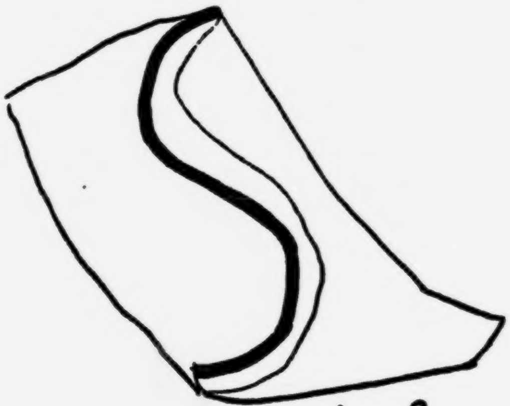
Case "A"

5



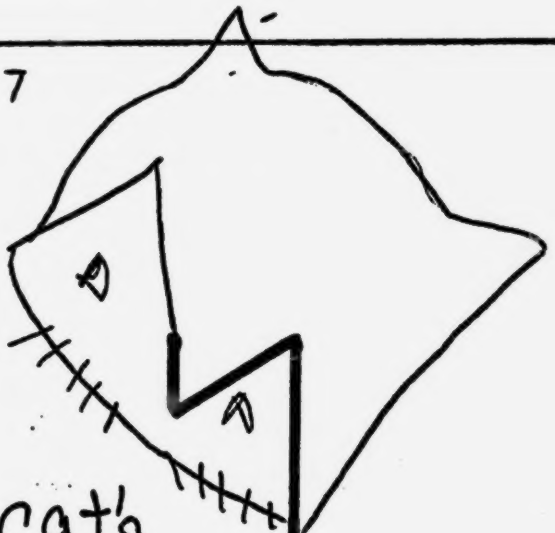
Square Box
with an apple in it.

6



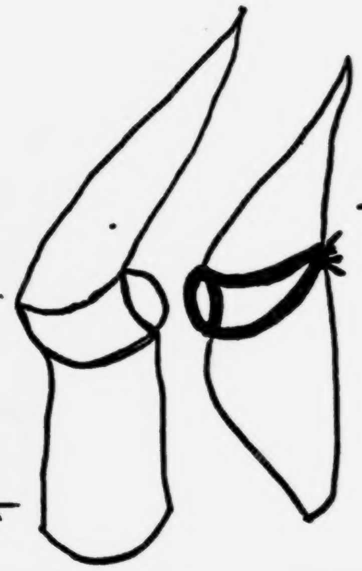
Handkercheif with
the initial S. on it

7



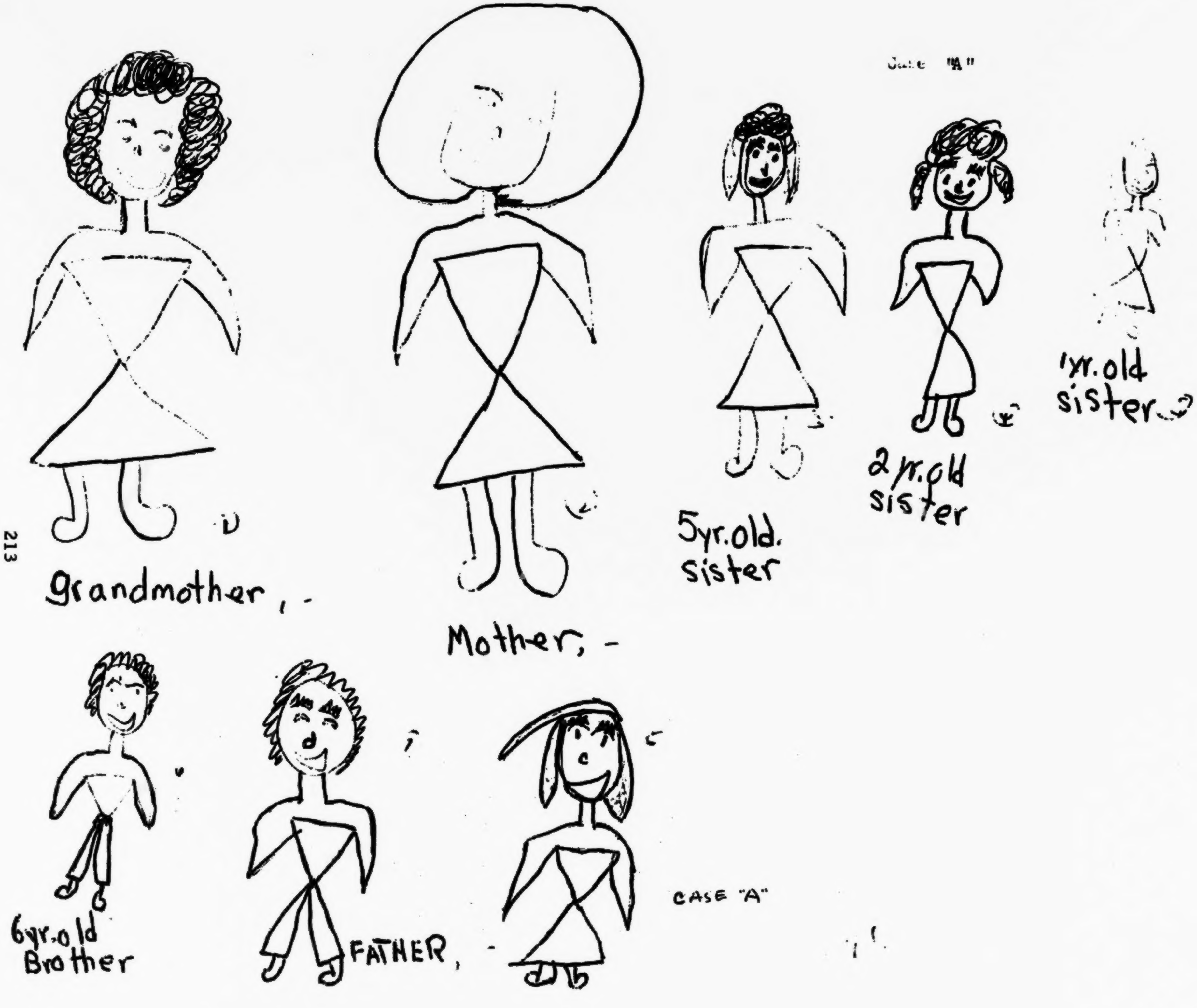
Cat's
Head

8



one Bat looking at another Bat,

One Bat


grandmother,
Mother,
5yr.old.
sister
2yr.old
sister
1yr.old
sister
6yr.old
Brother
FATHER,

Case "A"

CASE "A"

Case "B" - High Achieving Boy

Age at time of initial study: 10-9	Age at second interview: 13-1
Achievement Test Scores at Grade 5.2	Achievement Test Scores at Grade 7.2
Reading Comprehension 6.8	Reading Comprehension 8.9
Arithmetic Computation 5.8	Teachers feel he is not working up to ability

Family Composition:
Mother, Maternal Grandmother, Father not in home
B is an only child

"B" is one of the high achieving boys, having attained a reading grade score of 6.8 and a mathematics grade score of 5.8 at the beginning of the fifth grade. When he was seen initially and also when he was interviewed two years later, he was an alert, rather serious, somewhat shy youngster with a ready quick response.

The pediatric examination found B to be of medium build, slightly under the average height for the high achieving boys and somewhat more than slightly under the average weight. He was rated as "excellent" in neurological status and in vitality and as "good" in posture and in nutritional status. He is left-eye dominant, but right handed and right footed. Vision was 20/20. Sexual development was in the early stages. There were two physical abnormalities, a slight heart murmur and an undescended testicle.

B's functioning on the Wechsler Intelligence Scale for Children was variable. His subtest scores ranged from the retarded level through to the superior level with most scores at the average level. He had difficulty with the Block Designs, Mazes and Information subtests. The first two were performed on the retarded level, and Information on the borderline level. Block Designs and Mazes reflect nonverbal problem solving skills, conceptual thinking and foreplanning. He did much better in a verbal test of problem solving and concept formation (Similarities). Despite a low general Information score, he attained an average rating in Vocabulary. His best score was with the Digit Span subtest, a test of attention and immediate recall. The pattern was that of mostly average level functioning, especially in social judgment situations, both verbal and nonverbal, and with verbal reasoning tasks, but with areas of weakness in tasks of nonverbal reasoning. His verbal scale IQ was 100, performance scale 82, both well below the average for the high achieving boys.

He sorted the objects in the Object Sorting test into 17 groups, well above above the average number of sorts for all the children. His percentage of superordinate reasons was 24, well below the average of all the children. Here again, we see a tendency toward more concrete thinking with a concomitant difficulty with nonverbal problem solving. On the other hand, his ideational fluency and flexibility of thinking reflected in the scoring on the Uses for Objects task were far above the averages for all groups of children - 20 as compared to an average of 140 for high achieving boys in number of possible uses, and 13 as compared with an average of

9.4 in number of categories given. Likewise, his Drawing Completion (included) placed him somewhat above average for high achieving boys in number of original drawings, dynamisms, fit to stimulus, and flexibility, and slightly below the average in number of popular drawings. The drawings are done with an economical rather than elaborated style. Thus emerges a pattern of an alert, attentive, and creative mind in a child who functions best in loosely structured situations, but who experiences difficulty in focusing for purposes of problem solving or handling highly structured nonverbal reasoning tasks.

B also had difficulties in handling the Bender Gestalt test (included). He rotated figures, had trouble making dots, had considerable difficulty with angles, and despite much rework of his figures was not able to reproduce the Gestalt without distortion. Figure and Family Drawings (included) were likewise awkwardly executed with displacement or omission of limbs and immature conceptualization, despite considerable decoration and detail. These problems often accompany neurological dysfunction but B was rated as excellent in his gross neurological functioning. His difficulties in the perceptual-motor sphere including his confusion with Block Designs, do appear to represent a definite functional lag in this area.

How is a child with this pattern of abilities and disabilities viewed by his teacher and how does he view himself? His teacher gives him very positive ratings, with a score of 117, which is above the average rating for high achieving boys. He also rates himself at the positive end of the three-point scale in most items. He gives himself a negative rating in one item - he considers himself "hardly ever" as "good in making things". He is uncertain as to how good he is in art which is in line with the ability patterns evident on the tests. He is also uncertain about his confidence in taking chances, his laziness, carelessness, nervousness, luck and how much he questions new things. His Self-Appraisal Scale rating of 63 out of a possible score of 77 was higher than the average for high achieving boys, and indicates that he does or, at least, likes to believe that he does feel good about himself. His Achievement Attitudes Test, which reflects his preference for academic pursuits rather than play, his wish to delay gratification and to assume responsibility for scholastic success, was slightly below the average of the high achieving boys. As he put it in his narrative"The Way I Am in School," "I am trying to do my best but I have a problem sometimes ......" He enumerates the subjects with which he does well: social studies, language arts, reading, homework, spelling (all verbal subjects) and refers to his problem with arithmetic. He rationalizes hopefully when he states "sometimes when I get a low mark that is because I did not study hard, or I was a bit careless". Thus, B has a rather realistic awareness of his shortcomings which he can accept in the general sense ("half the time" good in art, "half the time" not; "hardly ever" good at making things), but which he cannot accept in scholastic sphere - "if I study enough and am sufficiently careful I will not have difficulty". And while he likes to think of himself as capable and well liked (Self-Appraisal) he is less concerned about his image as a scholar (Achievement Attitudes Test). There is evidence, however, that he does indeed try very hard to succeed scholastically.

What are the covert attitudes projected in the personality tests? With the picture Story Telling task, he was one of the few children to identify specifically the race of the figures, which he felt called upon to do in three of the four stories.

The pattern is that he feels victimized and uncertain about his ability to overcome unfair treatment alternating with defensive determination to do so. Academic success is tied into this struggle. He gives the following story to the first picture: "This Negro boy, he readin' a story about what's happening in his future and he thinkin' about how can a Negro improve and have freedom. He's thinking how's it gonna come out, will Negroes have freedom or will it come out the way it first started." To the second story: "Some Negro children readin', tryin' to get an education, an grow up and live a successful life. To be somebody special when they grow up, and make enough money so they could survive and support their family." He continues that the boy is thinking "about not playing ball but readin' and tryin' to get a high school education" adding that they have no time to do otherwise. Some conflict emerges, however, when he accounts for the boy's sadness as "maybe he wanna play ball but he's thinkin' of his education and he be thinkin' of the future".

The pattern of being abused by the outsiders and conflict about self-assertion and compliance is dramatically exemplified in his third story - "She's thinking his work might be wrong but she didn't have to say it in that way . . . the boy is thinking about his work might be right and the white lady might be mad just because the Negro is doing good." Yet, however, he'll "do what she say and try and do better next time and try to improve next time."

The fourth picture frequently elicits conflict between the wish for pleasurable gratification and the wish for achievement (Picture 1 in TAT series). B's only problem in his story, however, is the wherewithal for further achievement. The boy wants an "instructor" for the violin which his family cannot afford at first but eventually can provide. Thus, despite B's manifest self-image in this respect, he expresses his strong identification with the need to achieve, and to succeed scholastically. This achievement is overdetermined, however. It expresses not only conformity but also aggressive rebellion against the racially prejudiced outer world. His own needs for pleasurable gratification are wistfully rejected for "the cause".

The Rorschach examiner interpreted B's Rorschach as revealing him to be bright, imaginative and creative except that so much of the time he is concerned with trying to please and to deliver what is expected of him. The Rorschach revealed extreme sensitivity to other people in a self-protective way with the expectation of attack unless he measures up to his interpretation of the demands imposed on him. It further indicated that he is able to relate himself to others positively when he feels safe but his initial reaction in interpersonal situations is that of anxious guardedness and threat. He tends to reject his own feelings of anger in favor of seeing the anger of others. For himself, he retains the luxury of expressing such feelings only as a "termite" inconspicuously gnawing away at the adversary. He always seeks control and does control his emotional responsiveness, but at the same time, he retains sufficient freedom for spontaneity in expressing positive or permissable feelings.

On the Rorschach, B used intellectualization, and scholastic interest as a fortification when threatened, and by these means binded his anxiety. Thus, intellectual agility serves an important emotional need as well as providing him with a weapon and with a source of approbation.

B's Rorschach disclosed confusion in dealing with male figures. The important clearly conceived figures were female. The male authority symbol was seen as a clown who was trying to stand on his head. His figure drawing was that of a female, although the great majority of boys chose to draw males. His family drawing included his mother, grandmother, and great aunt, all substantial in size, and a very small uncle, and himself, smaller yet. His tension, his sensitivity and conflicts in aggression vs. passivity, self-assertion vs. compliance seem closely connected to his questions relating to manliness, and female dominance.

B's home is dominated by a strong maternal grandmother. B and his mother live with this grandmother. Also in the household is an unmarried maternal uncle who was 24 years of age at the time of the follow-up interview. Living in the same apartment house and in the immediate neighborhood are two other brothers and three sisters of B's mother and their respective families. Thus, despite the fact that B is an only child he is surrounded by family. He has cousins who are like siblings and the extended family centers on his household because of his grandmother's presence. They live in a clean but old tenement, in a crowded but comfortable railroad type apartment. The television set and sofa are in a rather small room which is dominated by a double bed.

His mother is a thin, frail, soft spoken, rather gentle young woman who was convalescing from surgery when interviewed two years after the initial examination of B. She was 16 years of age when B was born and never married his father who is now in the Army. B is her only child. B reports that his father sees him on occasion, the last time two years ago, and during the summers, he visits his paternal grandfather who lives in the South. B also spends considerable time with males in sports activities, so he has direct experiences with men, even though the intensive daily living involvements are primarily with his mother and grandmother.

His grandmother is a forceful figure. She strongly emphasizes the necessity of church attendance and a religious outlook for B. "Nothing should be more important than God," she says, "Learn about God and keep out of devilment." B attends Sunday school and church service each Sunday. He also spends considerable time playing basketball at school and as part of a church team. During the season, he plays a game every Sunday and practices on Thursday and Friday afternoons. B's grandmother will permit him to leave church early if he has a special game and accepts his not being part of the usher board because rehearsals conflict with basketball practice. If he leaves church without his grandmother's permission, however, he is punished by having to attend extra services and missing his games altogether. B also spends time at a school community recreation center when he has no homework. There he also engages in sports activities.

He is allowed to come and go freely with the provision that he is to call home if he cannot return at the expected time. He has a group of friends who are boys living in the neighborhood.

Few household chores are expected of B. This has been found to be true of many of our children. There is a demanding pressure to "be good" and to meet the social and educational expectations of the parents but the parents maintain a rather protective interest in the comfort and convenience of the child. This is at variance with the commonly held belief that the child raising practices of Negro lower-class parents tend to be harsh, restrictive and punitive. B takes the garbage out at night, helps bring the groceries home on Saturdays if he does not have a game, and sometimes helps with the dishes. His grandmother says that she will teach him to cook when he is a little older, because men should know how to take care of themselves.

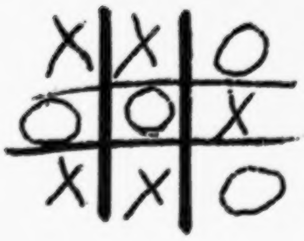
As to punishment, his mother says "I talk to him, my mother and his uncle do too. When that doesn't work out, he gets it. But that doesn't happen too often because he is a pretty good little fellow." Neither B nor his mother remembered the last time he had to "get it" (spanking). As to the person who is the authority over B his mother replied, "I'm supposed to be the boss but she's (the grandmother) over both of us". The observed interaction among them affirmed this.

There is some difference in child raising emphasis between mother and grandmother. His mother stresses education and his wellbeing, his grandmother seems very concerned about his social acceptability as well as about his education. As his mother puts her wishes for B, "number one is a good education, number two is his health." (His mother went to the tenth grade, his father and his aunts and uncles were graduated from high school). His grandmother says, "I want him to grow up to be a nice young man and have a good education. That's why I'm striving so hard with him. I want him to be nice and have a good education and be loved by everybody." His mother added, "I try to give him a lot of love, maybe that's why he's spoiled". His grandmother countered with, "You can't give him too much love," representing some agreement between the two concerning the child's need for support. B's maternal grandmother was the key mother figure either for some significant length of time or during the entire formative years of the child (a situation found also in cases A and C). Considering his family's emphasis on conformity to social expectations and school success in combination with the obvious love, interest, and concern for him, B's identification with their standards is no surprise. The degree of identification is apparently sufficiently high to permit him to overcome weakness in perceptual-motor spheres and undeveloped ability to handle problem tasks to achieve at a superior level for his school. Apparently the emotional climate has also led him to identify with the need to meet social expectations in both thought and deed. He is strong enough to have found a constructive outlet in basketball and other sports for his energies. The close watching, and what seems like relentless pressure to be molded into the image of an acceptable person, and the implicit threat resulting from being at the mercy of a powerful woman, his grandmother, to have a mother who is more like a sibling, and no male authority to counterbalance such forces all may well have led to the aggression-passivity, self-assertion-compliance conflicts, and the confusion concerning masculinity observed with the Rorschach. In addition, the tension and anger resulting from this situation, too benign to be experienced directly as inducing anger, and too strong to permit him to accept hostile feelings toward it, may combine with the facts of the social realty of the outer world to produce the focus of resentment on the attacking white race. His own creativity, his learned conviction that education is not only the key to the good things in life, but also an aggressive masculine assertion of power that will "show them" may well be important components of his "high achiever" status.

Case "B"

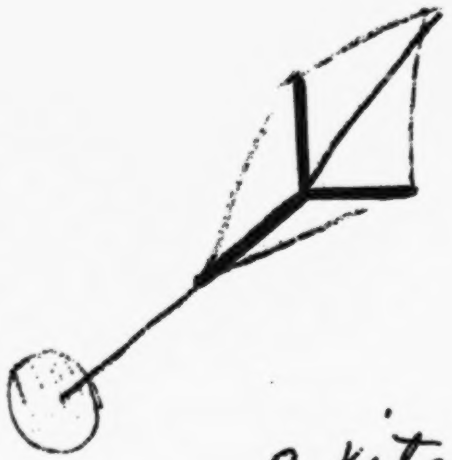
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1



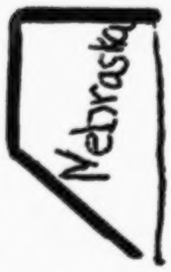
tic tac toe game

2



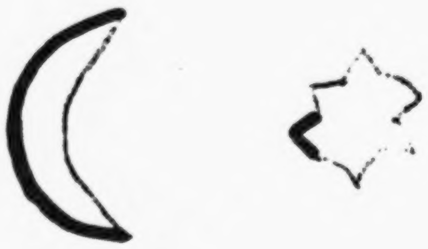
a kite

3



a state (nebraska)

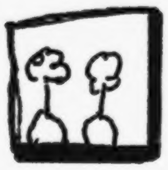
4



sun shooting its rays on a star

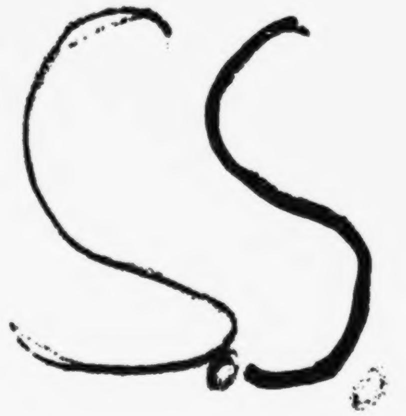
Case "B"

5



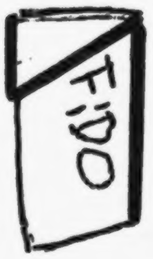
window with flowers

6



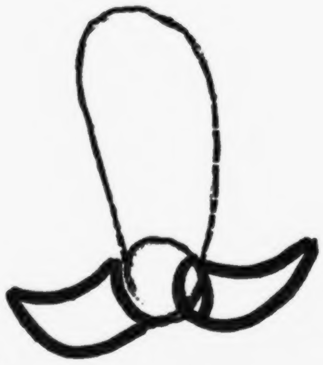
initials S. S.

7

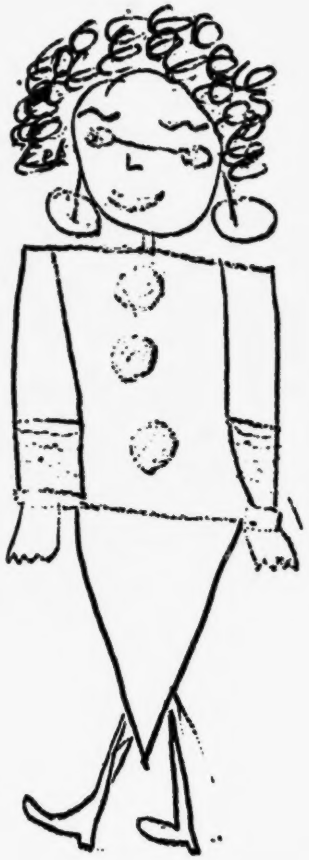


dog house

8



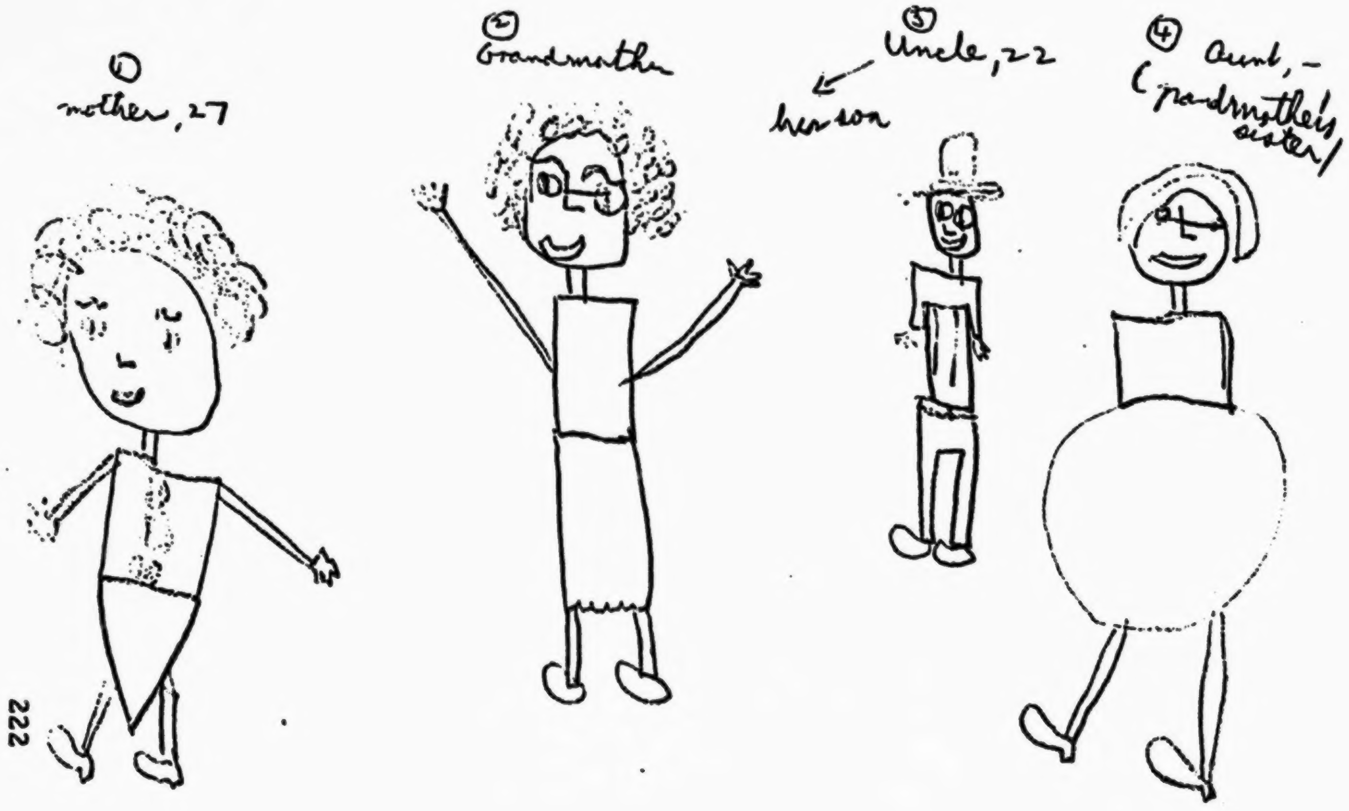
necklace



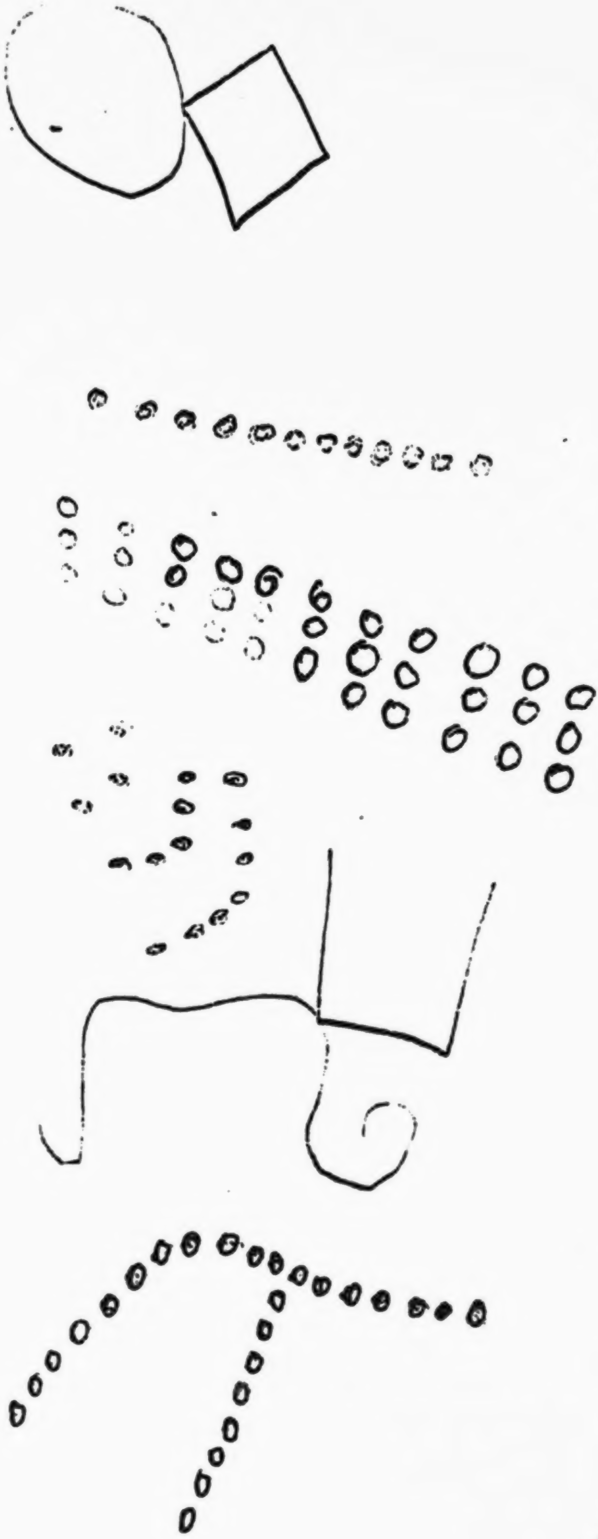
Case "B"

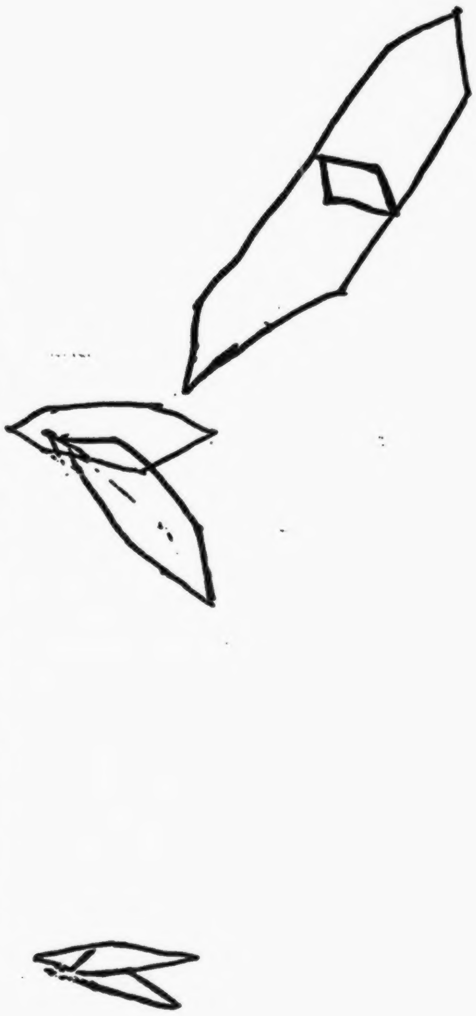
She is 16 years old. She is walking and she is on the sidewalk going to high school.

Case "B"

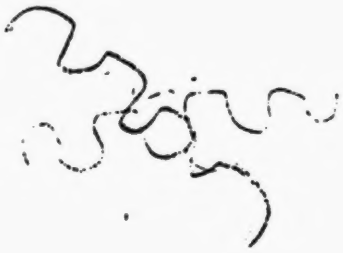

① mother, 27
② Grandmother
③ Uncle, 22
her son
④ Aunt, – (grandmother's sister)
⑤ me

Case "B"





These two figures drawn on a second sheet of paper



Case "C" - High Achieving Girl

Age at time of initial study: 10-3
Achievement Test Scores at Grade 5.2
  Reading Comprehension 7.9
  Arithmetic Computation 4.9

Age at second interview: 12-5
Achievement Test Scores at Grade 7.2
  Reading Comprehension 10.2
  Vocabulary 10.3

Family Composition:
  Mother, Stepfather; often stays with Grandmother
  Siblings: one younger brother

"C" is described by interviewers and the adults who have contact with her as charming, very well mannered and poised. Teacher ratings are almost wholly positive: "almost always" careful and neat in homework, well liked by other children, responsible, thorough, eager to succeed. She is one of the high achieving girls.

At the beginning of the fifth grade when the data were collected, she scored at the upper seventh grade level in reading, very good for her school. Her mathematics achievement, however, fell slightly below grade level (upper fourth grade).

C is an attractive looking youngster with large eyes and an expressive face. She is neatly groomed and meets the world with a gracious manner. During examination, she was responsive, spoke readily and with ease, cooperated with all instructions and participated actively in working with the tasks set before her. The examiner felt, however, that C seemed somewhat more interested in the attention she was receiving and in charming the tester than in really involving herself in the challenges of the test items.

The pediatric examination placed C at average height for the girls of our study, slightly under the average weight, but of medium build, with good nutrition, good vitality, good posture and 20/20 vision. She was at a relatively early level of sexual maturation. She is right handed and right footed, but with left eye dominance. Her general physical condition was rated by the physician as without defect except for a trace of protein in her urine.

C's functioning on the WISC ranged from average to superior, with one exception. She attained practically no score (scale score 1) on the Block Design subtest, a test of nonverbal problem solving and concept formation. She was confused by the subtest to the extent of not using the correct colors in her reproductions while apparently grasping the other essential elements of the task. Her failure with Block Design seemed to be the one instance of overt but "unconscious" negativism or resistance evident within the battery. Within the WISC, measures of her verbal concepts, general information, vocabulary, and social judgment were all toward the upper end of the average level of ability. Her general alertness to her environment (Picture Completion) and her facility in coping with a rote attention task (Coding) rated at the superior level. On the whole, while C functioned toward the upper end of the average range with the verbal subtests, she functioned toward the superior level with the nonverbal sçale, tending to do better with tasks that did not require specific problem solving skills.

Her Bender Gestalten were carefully executed, neat reproductions with no rotations, but with some uncertainty in handling the angulations.

C sorted objects into 18 groups in the Object Sorting test. This was well above the average of 10 groups for high achieving girls. The percentage of superordinate groups was 28% (average for her subgroup: 48.8%). Thus she was somewhat less precise and abstract in her thinking than many of the high achieving girls. Her ideational fluency was high, however, with 15 possible uses in the Uses for Objects test.

C's Drawing Completions (included) are elaborated, detailed and quite imaginative in a controlled way. Her Figure Drawing (included) is likewise, neat and careful, but with some awkwardness in handling fine detail, in this instance the hands. Her choice of a female figure is expected and typical of girls. Her rather stiff figure has a very large head, bouffant hairdo, and generally "sexy" appearance. Her emphasis on skirt, belt and neck detail convey her concern about bodily impulses. With her drawings of a family she depicted herself as large as her father and almost as large as her mother. "Oh, I'm thinking that I'm bigger than my mother and father, but I'm not. I'm just thinking." She gave herself, however, a rating almost equal to her mother in evaluation and potency on the Semantic Differential.

When asked what she wanted to work at when she grew up she could not limit herself to one choice. "Please let me finish all the things - a nurse, an artist, a ballerina and a pianist." On the Achievement Attitudes Test, which reflects preference for academic activities rather than play, willingness to delay gratification, feeling of responsibility for academic failure or success, C rated at 21 out of a possible 24, well above the average for high achievers. Thus emerges C's struggle to establish control and supremacy over natural body needs for growth and burgeoning femininity, reflecting also her identification and competition with parental authority figures in this quest.

C's self-appraisal score was about one standard deviation above the mean for the high achieving girls. She sees herself as neat, smart in school, polite, trying her best, liked by other children, full of fun, and going to do well "most of the time" and as "hardly ever" shy, a pest, lazy, sad, careless, or nervous. About "half the time" she considers herself bad and scared to take chances, but also a hard worker, nice looking, good in sports, as lucky as others, honest, a big help at home, and bad. Thus she is confident of her school adequacy and social popularity, but some concern about self is suggested. Her teacher gave her an almost perfect score on the School Behavior Rating Scale. With few exceptions, the positive behaviors were checked at the most frequently occurring scale point and the negatives as "almost never" occurring. She obtained a score of 123 out of a possible 130, almost two standard deviations above the mean of the high achieving girls so that C was more moderate in her own positive view of herself than was her teacher. (It will be recalled that the self and teacher ratings defined the second-order factor of Positive Self and Projected Image in which C was outstandingly high.)

Her narrative about "The Way I Am in School" also reflects C's emphasis on the need to be popular and conforming. "In school I think I am really liked by others" is her first sentence. She adds "I also like to think I am smart in school. I also get a lot of A's and B's." She includes "I behave very well while the teacher is out of the room. When she has company I look in a book and try to study." Her handwriting is neat and well formed.

Unlike the more direct expression of self-perception and behavior tapped by the rating scales and self-description, Story Telling elicits a self-perception less subject to the restraints imposed by convictions about what should be. When C is not talking about herself, but about central figures in the pictures, these figures emerge as abused, rejected, rebellious and failing. In the first picture the central figure "got angry and started tearing up the book" because of unfair treatment based on his race. . . . . "Why should white boys always get the job, why do they treat the colored boy so mean?" . . . "Maybe he is tired of going to school. There's no use in going to school because you're not gonna get anywhere because he's Negro." Yet, after a discussion with his mother "and the whole family," he "just kept trying and trying till he got a job."

In another story (Picture 3) a boy is scolded and slapped by the teacher for not doing his homework. He has to stay after school and is whipped in front of the class by his mother. "This is a good lesson for him because he hasn't been doing well in school, and all he's learning to do is play all day." The harshness with transgressions sheds some light on C's need to control her own behavior rigidly. Another aspect of this demand for receiving acceptance by meeting others' expectations at whatever cost is highlighted in the story to Picture 2. A girl is described as rejected by the others: "Looks like she's smiling at the girls. Oh brother! She might feel a little bit bad but she's still smiling to show that she's not feeling bad. Because, because maybe the girls wouldn't like her to play if she's feeling bad." At the same time that this figure manages the situation so bravely, she compares her clothes with those of the other girls, and decides that she is better dressed.

C's last story addresses itself to the struggle between relating to her own needs and expectations. Despite a worried mother, the central figure runs away. "He's mad. Because he's sick and tired of playing that violin. He thinks that he should do what he wants to do. He's gonna run away to learn about nothing but basketball, and join the YMCA."

C gave two and one-half times the average number of responses to the Rorschach, 51, as if she were pushed to account for all details of each blot. Her thinking was stereotyped and fragmented with much concentration on unessential detail. Thus she gives evidence of protecting herself from dealing with central aspects of the situation with which she is confronted in the service of her emphasis on tight control. Such formal, imposed control guards against involvement, protects against anxiety, and keeps her feelings in line with what "should be." On another level, her Test of Caution corroborated the Rorschach findings with an extremely high caution score of 45 out of a possible 48. On the Rorschach, C showed some emerging adolescent sexual interest which she apparently finds unacceptable. The conflict is expressed by concern about body intactness. On the whole, the Rorschach indicated that she avoids dealing directly with her feelings and avoids really relating herself directly to people.

C lives with her mother, stepfather, and two year old half-brother in a shabbily furnished but clean six room railroad-type apartment in an old but fairly well-kept tenement. Her parents separated when she was four years old. When she was nine her mother remarried. After her parents separated, her mother returned to the maternal grandmother's home. A maternal aunt was also a member of this household. There they lived until the remarriage. C sees her own father about four times a year. Her mother says that she tries to be lenient with C in order "to make up" for the loss of her own father. While C is a part of her mother's new household which is located about a mile from her grandmother's home, C maintains close contact with her grandmother by attending church services with her, visiting, and sometimes sleeping at her grandmother's house. Thus C was raised by three mother figures. According to her mother "everyone was in charge of C". The grandmother's attitudes toward child raising are described by C's mother as somewhat lenient and soft, the aunt's as strict. An interview demonstrated that her grandmother is indeed especially approving and supportive of C.

C's main interaction, however, is with her mother. Mrs. C is a very thin, frail-looking person with a gentle manner, but definite opinions. She sees herself as weak and inadequate in managing, especially in coping with the very active, demanding two year old. She works as a sales clerk from 6 to 10 P.M., five evenings a week. Her husband is at home while she is at work. He seems not to be a strong influence on C. Mrs. C's relationship with her daughter is one of great interest and involvement, definite insistence on certain standards, with a kind of pressuring critical scrutiny, under a rather pleasant, soft give and take. Warmth and distance, disapproval and acceptance, display of strngth in a setting of felt weakness seemed to be characteristic of her interaction with her daughter.

Mrs. C has definite ideas about appropriate dress. She vetoes fishnet stockings, and thinks make-up, even for 16 year olds, is wrong. On the other hand she does not object to C's wearing a bra but C's grandmother thinks that item of apparel at this time will make C "grow up too fast." This makes Mrs. C uncertain. She is not uncertain, however, about wanting to keep C a little girl. She is very involved in C's school progress. She taught her to write before she entered school and always helped her with her homework. She now accepts the fact that C no longer needs this kind of help. When C's marks fall she knows it. "I try to push her and explain the importance of education." She visits school often. She was not enthusiastic about the teacher's suggestion that C take advantage of open enrollment opportunities to attend a junior high school outside Manhattan because of the travel necessary. When she decided to permit this she wrote to the Board of Education explaining her daughter's need for transportation. She wants C to become a doctor and says that she hopes that C will grow out of her fear of sick people so that she may attain this goal.

C's social activities are centered in the church. She is active in a Scout group that meets in the church. C also attends Sunday school. She spends a lot of time watching television. She has friends in the neighborhood. Her mother is careful to point out to C that she is "most certainly not 'hanging out' with them." She sets times for her to be out and the time for her to be in the house. Most of C's free socialization takes place during the summer but she does have a school buddy who lives in the neighborhood. Mrs. C criticizes her daughter for wanting to conform to the dress and activity tastes of her friends.

C does assert her wishes with her mother and they talk about these conflicts. C goes along with her mother's wishes if there is a real disagreement. There is no defiance and both C and her mother agree that there have been no recent occasions for punishment. Mrs. C seems to accept lapses. She is matter-of-fact when she states that C frequently forgets assigned tasks and does not manage to get to bed until 10:30 while her mother thinks she should be in bed at 9:30. C occasionally helps her mother by going to the store or by going to the laundromat or washing the bathroom floor, but has no set chores. Her mother thinks that now that C is older, she may assign her some responsibility, like taking care of her clothing, but she thinks that C's homework justifiably demands most of her time.

Thus we see permissive parental handling but with strong demands for school achievement and for being "a nice girl" in a framework of the interest, attention and control of several adults.

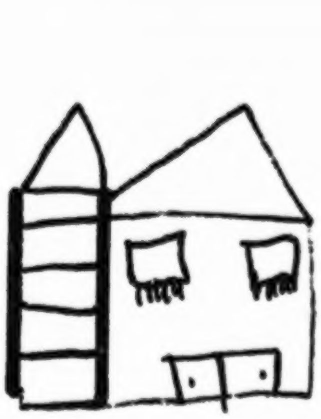
C herself, has developed identification with the accepted social values that surround her. She has somewhat more than the average amount of the beginning adolescent's interest and preoccupation with herself and with her personal attractiveness. She has also learned the social graces and knows how to be friendly and charming, hard working, and to appear interested. At the same time, however, she is self-conscious, competitive, worries about being accepted by others, is concerned about being discriminated against because of her race, and has angers that she neither understands nor accepts. As a result she tends to be wary in relating, and tends to manage situations rather than really involving herself in them. She judges herself by high standards of achievement and "niceness." She identifies with these values but yet they remain not entirely egosyntonic. She permits herself no outlet for negative or "bad" feelings no matter how moderate these are. She has organized herself so as to avoid anxiety and tension at the cost of real engagement.

C's adaptation has resulted in inconsistent development of her intellectual potential, but also in daily functioning that is good enough to warrant the positive reinforcements of recognition, approval and praise. She can function up to a superior level with set structured intellectual tasks; she reads above the grade level norm, earns better than average marks and devotes her energy to being a popular girl and a "high achiever."

Case "C"

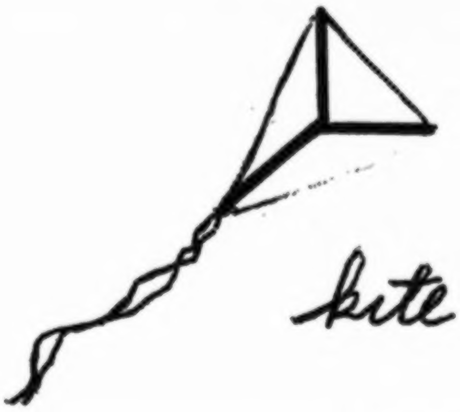
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1



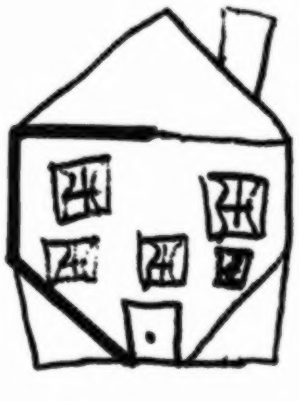
barn

2



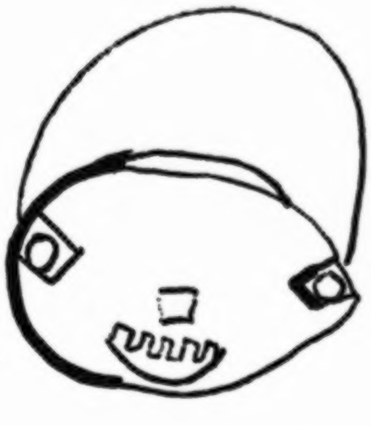
kite

3



House

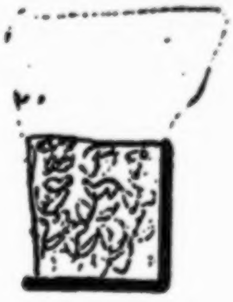
4



Jack-o-lantern

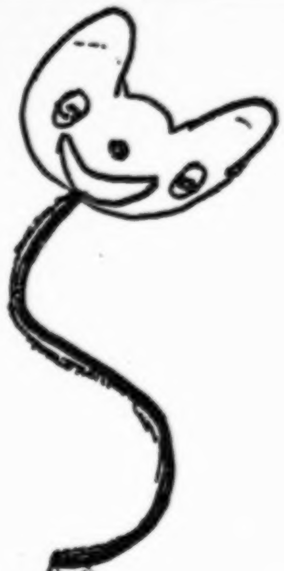
Case "C"

5



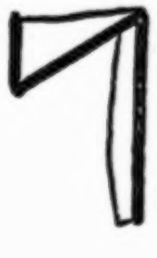
garden

6



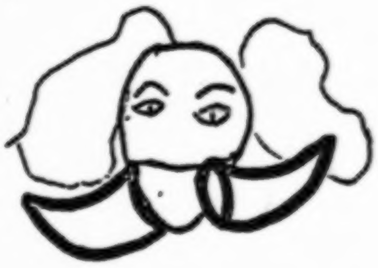
balloon

7

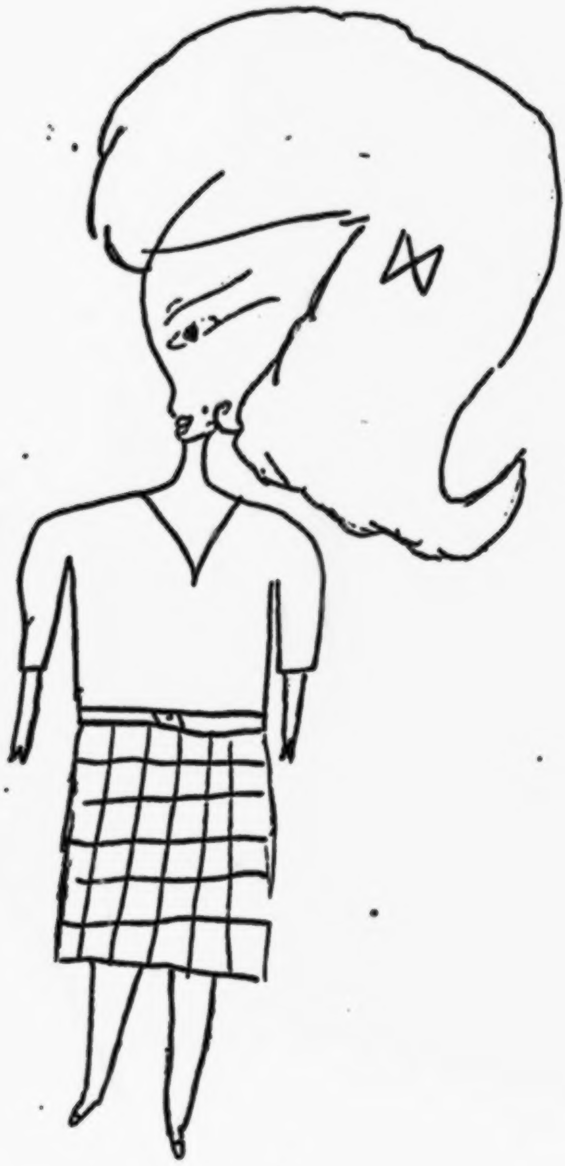


hammer

8



Elephants heat



Case "C"

She is 21. She is at home and she just finished getting dressed and going shopping to get some food.

Case "D" - High Achieving Boy

Age at time of initial study: 10-1	Age at second interview: 12-3
Achievement Test Scores at Grade 5.2	Achievement Test Scores at Grade 7.2
Reading Comprehension 7.3	Reading Comprehension 11.0
Arithmetic Computation 5.1	Grades reported as "excellent"

Family Composition:
  Mother, Father
  Older siblings: one sister
  Younger siblings: one sister

"D" is one of our high achieving boys. In the beginning of the fifth grade he was functioning just about at grade level in arithmetic computation but at the seventh grade level in reading comprehension.

He is a lean, well-built, eager-eyed youngster who is slightly taller than the average high achieving boy and also slightly heavier. He speaks in a careful articulated way and is so well mannered and courteous that he seems almost courtly. He was socially responsive to the examiners and meticulous in his approach to the tests. He was motivated to do what was expected of him in the best way possible for him. Considerable tension was noted at first but later he seemed at greater ease.

The physician found his neurological status to be "good" and also his vitality and posture. In nutritional status, he was rated between good and fair. His sexual maturation was in the early stages. He was rated as "fair" in overall medical status because of a suspicion of asthma, and because of traces of past eczema. He is also somewhat nearsighted.

D's functioning on the WISC was highly inconsistent. Despite his diligent self-application, the level on which he handled the subtests ranged from low average level through to very superior level. "Average" functioning was the level attained with most of the nonverbal performance scale items. The exception was *the Picture Arrangement subtest, a test of social comprehension* and problem solving. On Picture Arrangement he attained a high average level. The verbal tests, however, were all handled on the superior or very superior level. Thus D's verbal reasoning, vocabulary, range of general information and his ability to handle verbal and abstract concepts were all at least superior. The verbal scale IQ was 143, the performance scale IQ 103, the full scale IQ 126.

Speed of movement was a factor in the disparity of D's scoring on the WISC. The performance scale problems are timed tasks and D was not fast enough to earn time credits. His thinking and reasoning in other nonverbal situations within the battery were above the average for high achieving boys. For example, with the Object Sorting Task, he did somewhat better than average in dealing with broad equivalences and well over the average (88% as compared with a mean of 45.6%) for the percentage of superordinate reasons he could give for his groupings. In Drawing Completion (included) he scored well under the average in popular responses, giving none of the usual kinds of completions, and well over the average in originality, complexity and appropriateness of completions. Indeed, his completions were most imaginative and elaborated. Thus, he demonstrated a highly original creative mind that could cope in a superior way with the latter nonverbal problem solving tasks. Some inconsistency continued, however. He was slightly under the average for the high achieving boys in a test of verbal fluency, Uses for Objects. The very superior verbal functioning on the intelligence test might have been expected to be reflected on this test, yet he was somewhat below the average for high achieving boys in number of possible uses for the various objects, and produced only an average number of categories. The Bender Gestalt test also reflects inconsistency in functioning. Despite his apparently cautious, slow way of drawing the designs, the results were crowded in placement on the paper and somewhat disproportionate. Basic handling of the designs was adequate, however.

His Figure and Family Drawings (included), too, were poorly placed on the paper, especially the drawings of his family even though these drawings were well executed and individualized. Thus, we see the tendency for D to work in such a way as to appear to be cautious and careful but with results that reflect little planning or poor planning. His actual lack of caution was corroborated by the Caution Test score that was more than one deviation below the mean for the high achieving boys.

How does the teacher describe D? She does not rate him very high. In fact, he earned a score of 92 as compared to the average of 102 for high achieving boys on the School Behavior Rating Scale. The positive ratings he received resulted from his being seen as "almost always" interested in doing well in his work, paying attention, having a good relationship with the teacher, using the library; conversely, he was "almost never" sullen, overanxious, restless, attention seeking or pugnacious with peers. But his teacher rated him as seldom well liked by the other children, and seldom going beyond the requirements of his assignment or volunteering contributions. She also saw him as usually fearful and tense.

How does he rate himself? He says he is liked by the other children only "half the time" and also "half the time" is sad, scared and nervous. He sees himself as "hardly ever" bad but also "hardly ever" a big help at home, good in sports, or questioning of new things. "Most of the time", however, he says that he is smart in school, a hard worker, trying his best, polite and good at making things. His self-rating score of 56 was closer to the low achievers than to the high achievers.

In his narrative on "The Way I Am in School" D's lack of confidence in his abilities is even more evident. He writes, "In school I think I'm really no better or smarter than anyone else. Anyone can be smart if they try hard enough. Anyone can be in a top class. The way I think about the way I am in school isn't one of the smartest people in school but is someone who tries harder. I can't do any better than anyone else unless I try even harder than I am now. They can get along better than me if they try harder, they can always be better than me".

Not only is his uneasiness and his derogation of his accomplishment evident in that narrative but his competitive attitudes are obvious also.

D's Figure Drawing, portraying a rather mature masculine young man, was described by him as a boy who was sad because he had lost his books and probably would be punished by his parents, since they would have to pay for the books. The boy would be punished by being hit with a hard shoe. His identification here is with the remiss, potentially abused, underdog.

The Story Telling Task taps even deeper levels of attitudes toward self and others. In his first story the identification figure is sad because his ambition and quest for knowledge has resulted in a mistake and trouble. He invents something, having been inspired by a science book but the lawnmower he is using in his invention "gets loose and is running everywhere and people are trying to run away from it". In his second story the interaction among the figures is ignored. This picture is designed to elicit feelings of anticipation of acceptance or rejection by the group but D focuses on scholastic demands. "These people are standing here looking sad, and these books on the ground are Math, English, and Science. I think it must be about their homework too, because they probably forgot to bring one of their books or they had a club and they couldn't go to it because they had so much homework." Again, he worries about responsibility and loss of property. "They think of trying to do their homework in the club and when they do, the president of the club tells them he don't want them to bring any books because he didn't want to be responsible for them". The identification figure agrees.

D refers to "winning" a test as a synonym for "passing." Failure and inadequacy are also the theme of his third story. "I think there could be a moral to this story. When you're tense, you never win; when you're eased you win". The chronicle of the last story is replete with a saga of library research and study to master the violin, with the result of finally achieving success, only to be confronted with an accumulation of neglected schoolwork.

Concern about money problems was evident in several of D's comments. The boy in the Figure Drawing was worried because his family would have to pay for the books he lost. In his last story, he fantasies that "the boy lived in a rich family, and the violin cost $600 and no one else could affort it". Also, in response to one of the interview questions when asked what he did with money when he had it, he replied, "Well I've always been trying to save up for an airplane. It costs 49 cents. But everytime, I'm almost finished saving for it, I need paper, or a pen and pencil, and I have to spend it on that".

Thus, attitudes of struggle and tension, and need to overcome basic inadequacies are pervasive. Interaction with authority figures is not emphasized. The stress is on the struggling child.

The Rorschach reflects in dramatic ways D's need to struggle in order to cope with the world. He approaches life as a challenge. He must decipher all aspects of the situation with which he is confronted, he must make sense out of nonsense, and he must overcome his strong feelings of inadequacy in coping with such a task. He demonstrates in action on the Rorschach the "we try harder" theme of his narrative on "The Way I Am in School".

His Rorschach response of explosions reflect D's tension and sense of pressure. There are other signs of this in a setting of sensitivity and imagination and intellectual brilliance, all subordinated to the task of mastering and controlling a dangerous, and potentially predatory, destructive world.

It was most interesting that in his Uses for Objects , he was able to give several divergent responses to the first object, "Brick", including such unusual ones as "it's good protection against fire, like asbestos". For "knife", the third object, however, after an initial usual response of "for cutting" he hesitated and commented that "I can't seem to think of too many things for a knife". But then he finally gave an intellectualized, acceptable response rather than the overtly aggressive ones that some other children gave for "knife", "well you can use it for an operation, like if you were a doctor".

His intelligence helps him to cope with his anxiety but at this stage of his life, his organized use of his ability is dissipated by so doing. That is, if D did not have to direct so much of himself in fending off and coping, one would expect that he could function scholastically with greater ease and with greater effectiveness. The 143 IQ potential is not translated to directed action despite the fact that he is also very much emotionally invested in "winning" scholastically.

When D is very anxious his reality testing grows rather fuzzy. His personality style is not one of cautious control but of action. As we have seen before, the tense way that he must survey a situation before proceeding looks like caution, but D follows through with more impulsiveness than caution.

What home setting has produced this extremely bright youngster with such ambition and such deep-seated concern about his ability to maintain himself? He is the middle and only boy of three children. His father is considerably older than his mother and at 65 quite old to have a ten year old son. They live in a low rent public housing project in a shabbily furnished but clean three bedroom apartment.

His mother is a rather hostile person who herself seems suspicious and defensive toward the world. She is the only parent of children selected for these case studies who refused a second follow-up interview (even though the interviewer presented herself at the home). She is rather negative in her view of D. She does not think he will "go too far" unless he "changes". The desirable change is toward more patience. She is not interested in college for him. She was not aware of the fact that his "special" class was a class for especially bright youngsters, and she thinks of a terminal vocational high school education for him. D says that his father "doesn't seem interested in knowing about marks". Incidentally, D's older sister was chosen the outstanding student of her class.

D spends his after school time with homework, television, and reading science fiction. He does not attend church or Sunday school. His mother describes him as "very quiet", "he doesn't like to play too much and he doesn't make friends easily". Two years after the initial study, however, he had begun to participate in the school band. He is also doing exceptionally good work in the seventh grade and was one of the few boys who made Arista.

He asserts himself at home through temper. "When he gets angry, he throws things". Sometimes he sulks. Disputes center around amount of television viewing which his mother does restrict. His household chores are to walk the dog, empty the garbage, and help wash the dishes. This does not present a problem to D or to his mother.

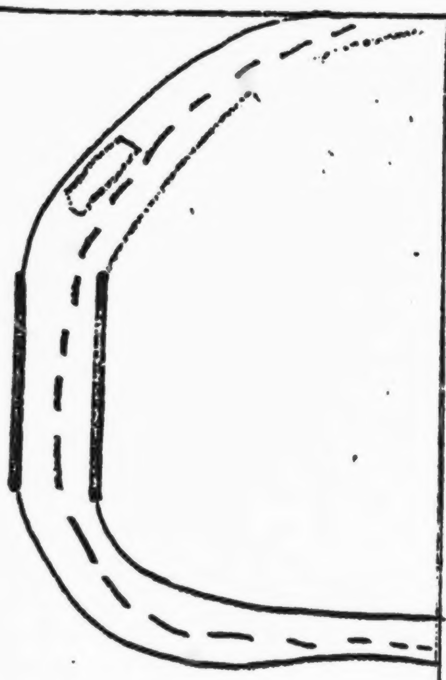
D's father was not at home during the first interview. He works long hours as a garage attendant. He seems not to have much direct contact with the children but yet he is important at home. D draws him as the only complete figure and as the most dominant one in the family. His mother watches the news on television: "I have to because my husband does". On the whole, D feels dominated by both parents. They are both formidable in his perception. His compliance, social withdrawal and occasional temper outbursts reflect the rather disapproving dominance he experiences in his home setting.

Thus we see an ambitious boy whose focus of scholastic success as an outlet for his needs to prove himself seems largely unsupported at home. He is not recognized by his family as particularly capable, he sees himself as "average" and one who must struggle to maintain adequacy. In fact, most of life is seen as a struggle. His considerable energy and capability are devoted to survival in the face of a generally dangerous world. Interpersonal relationships are pushed aside in the interest of protection, and conservation of energy. He hesitantly and with considerable tension surveys situations, then plunges into them. All of this reduces his efficiency in the scholastic sphere so that his verbal brilliance and creative thinking are neither recognized by him nor available for consistent application. Thus D is a high achiever, according to grade level expectations, but yet an unhappy, struggling low achiever in comparison to his potential.

Case "D"

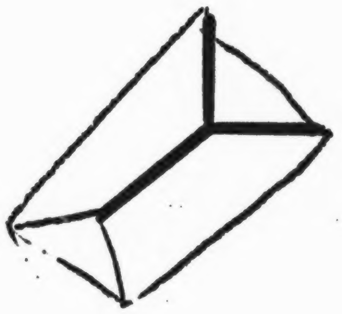
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1



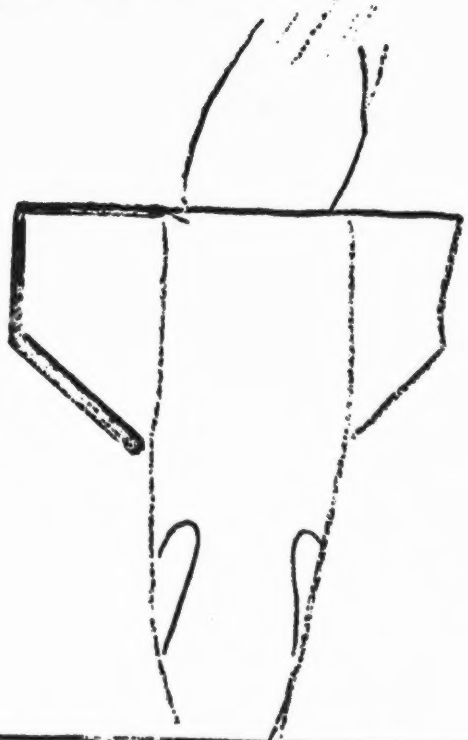
Highway

2



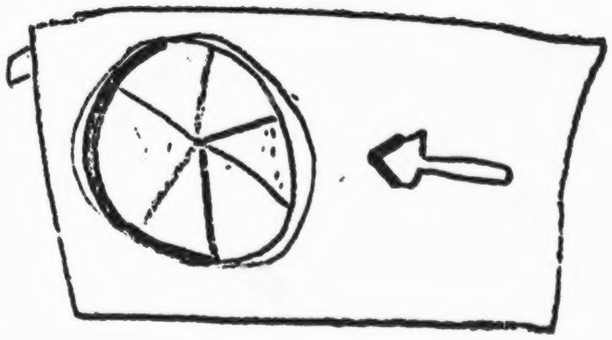
a LETTER

3



a missle heading dawnward

4

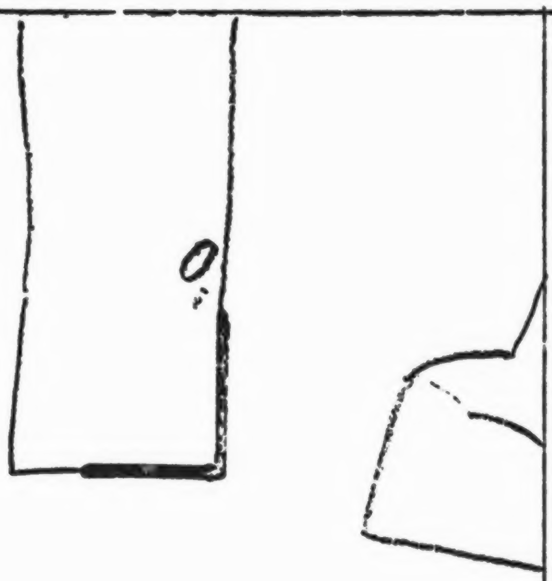


a TABLE with a PE[illegible]

a spoon

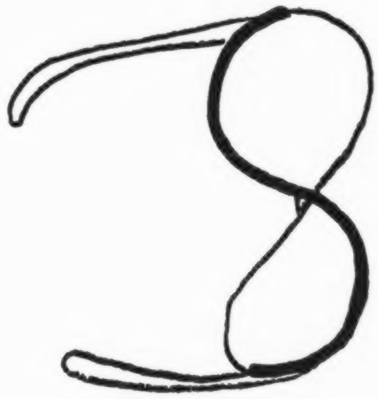
Case "D"

5

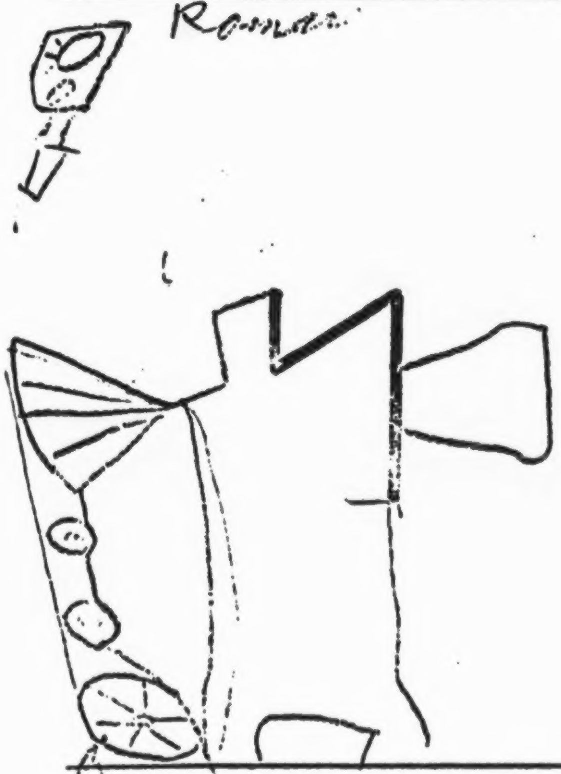


Door and chair in a Room

6

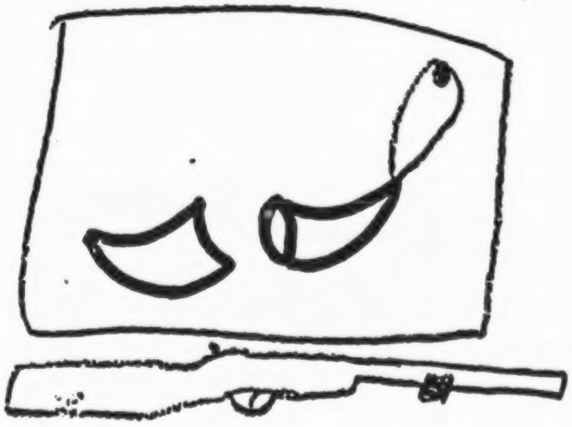


A Pair of glasses



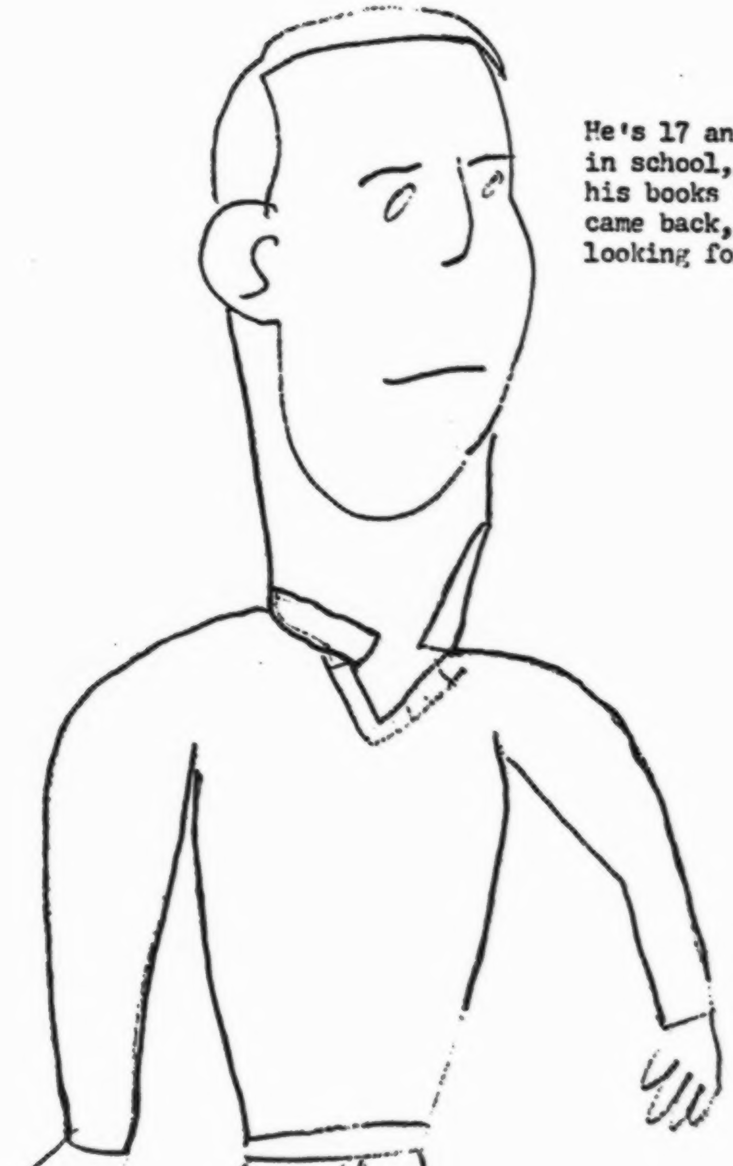
A Train going up a steep hill.

8



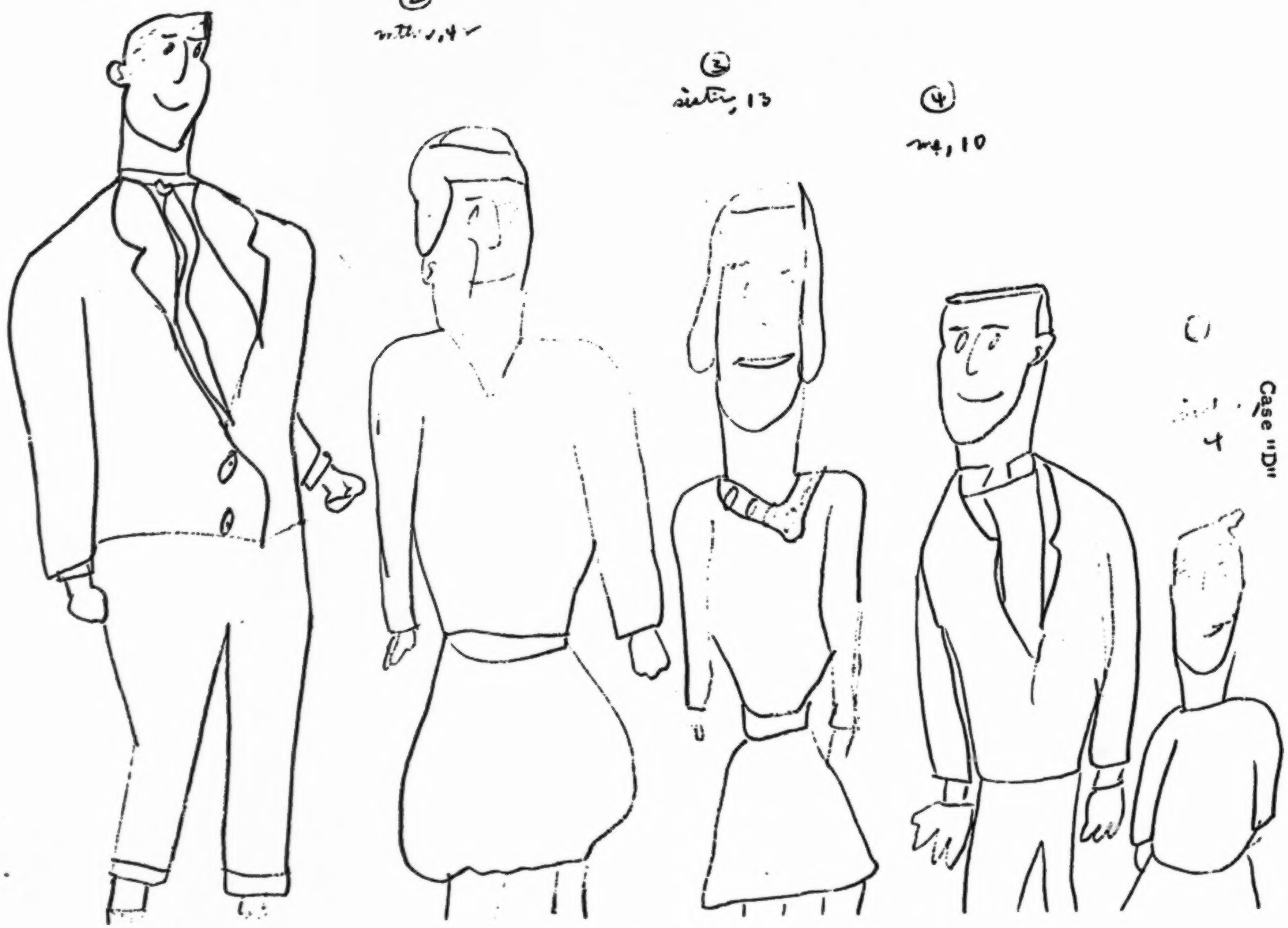
wooden horns and a rifle on a wall

Case "D"



He's 17 and he's supposed to be in school, a high school. He left his books in the park and when he came back, it wasn't there and he's looking for them.

Case "D"


①
father, 64
②
mother, 42
③
sister, 13
④
me, 10
[illegible], 4

Case "E" - Low Achieving Girl

Age at time of initial study: 10-11
Achievement Test Scores at Grade 5.2
Reading Comprehension 2.5
Arithmetic Computation 3.2

Age at second interview: 13-4
Achievement Test Scores at Grade 7.2
Reading Comprehension 4.2
Class Marks: Failing

Family Composition
Mother, Father not in home
Older siblings: one brother
Younger siblings: one brother

"E" is a large boned, physically developed youngster who was described by the examiners as very serious in manner, friendly and cooperative socially, involved but slow and tense in responding to the tests. In the fifth grade she scored at the middle second grade level in reading and at the beginning third grade level in mathematics; hence she is one of our low achievers.

The pediatrician rated her as between good and fair in general medical status. Neurological results were considered a little less than "good;" vitality, "fair;" nutritional status, "good;" posture, "fair." She was almost fully developed sexually. Her vision was 20/20 in one eye, 20/30 in the other. She was right dominant in eye, hand and foot. At 5' 6" and 134 pounds she was much taller and heavier than the average; there were only 8 girls in the group of 80 who weighed more than 130 pounds.

E was inconsistent in functioning on the intelligence test. Levels attained ranged from retarded through high average. Lowest levels, retarded to borderline, were on the subtests of Vocabulary, Comprehension and Block Design. Comprehension is a test of social judgment in dealing with verbal problem situations. In a test of social judgment (Picture Arrangement), using nonverbal material, however, she attained an average level score. Though she had only a low borderline score on Block Design, which measures ability to handle abstract concepts on a nonverbal level, she earned a score on the average level of ability in Similarities, a test of verbal concept formation. Her highest level functioning (high average) was with a test of attention and new learning (Coding). On the whole , the WISC indicates that E can function on the average level of ability at least, but that there is a pattern of erratic inconsistency in the availability of her intellectual potential. The verbal scale IQ was 81; performance scale IQ was 92; full scale IQ was 85.

She sorted objects into 19 groups which was well over the average of the low achievers (average for low girls 10.9). This indicates inadequate ability to think in terms of commonalities with this task. Likewise, her lower percentage of superordinate reasons indicated a poorer ability than even the other low achieving girls to deal with general concepts. We also see a relative paucity in the number of uses she could give for objects and in the number of categories selected for those uses. Both were well below the average for the low achieving girls, or, indeed, well below any of the averages. E's functioning with the Object Sorting task and the Uses for Objects test indicates that she tends to function at very minimal levels with relatively unstructured problems. On the other hand, with the Drawing Completion test (included), which provided a somewhat higher degree of structure than did the sorting and uses tests, she functioned either at the average for her group or better. For example, the number of original completions was at the average for her group, and the complexity and fit to stimulus were better than the average.

It is interesting to note that the linguistic analysis of E's speech reinforces the observation of her great inconsistency. The total depth was closer to that of the high achievers than to the low achievers and the end complexity was likewise relatively good; these measures were probably less school related than the WISC vocabulary subtest on which her score was low.

E's Bender Gestalt drawings were expansive and somewhat awkward in execution and control, but basically sound in grasp. Figure Drawing and Family Drawing (included) were stiff, paper doll type, feminine, somewhat anxious, superficially decorated representations. They also indicated quite adequate perceptual-motor coordination.

E's narrative on "The Way I Am in School" reflects her colloquial speech patterns. (Incidentally, she started school with a severe lisp problem but with the help of speech therapy this has steadily diminished. When she was interviewed two years after the initial testing there were only the subtlest traces remaining. Her speech remained provincial however). It also reflects her rather passive, superficial but diligent application to a task in the style of listing, rather than organization of thought. It reads as follows:

> I read good in school.
> I try my best to spell good in school.
> I reads all the story in the book.
> I keep the class neat.
> I am quiet in school.
> I go to school every today.
> I look for words in my book.
> I do good in language in class.
> I do good math in class.

A pattern of valuing compliance emerges (I am quiet, neat), as well as a need to reassure herself or at least to present a picture of better performance than was actually her experience ("I read good," "do good math" and "go to school every today" despite a pattern of absences, especially afternoon half-day absences).

Her Self-Appraisal Scale rating was 62, above the mean of all the groups, including the high achievers. All the extremely positive ratings were used except for "half the time" checks for being smart in school, shy, scared to take chances, full of fun, good at making things, or feeling as lucky as others. One would suspect these areas to be E's concerns.

Her teacher rating of 81 was slightly below the average for low achieving girls. The teacher saw her as "almost always" neat and clean, submissive and passive, and as "almost never" doing more than required or resisting authority, speaking out of turn, or seeking attention. She was only "sometimes" responsible, careful with and concerned about scholastic work, actively participating in class discussions, or well liked by other children. Although she was seen "usually" to pay attention in class, she was also considered to be "usually" tense in class.

E's story telling reveals a rather isolated, unhappy youngster with a pervasive feeling of inadequacy. The stories corroborate the superficiality of her efforts to present a contrary image on the Self-Appraisal Scale and the narrative on "The Way I Am in School." E's stories also indicate that her spontaneity and ability either consciously to involve herself or to find release in fantasy are relatively lacking.

In the first story the identification is with a horsewith a broken leg. In the second story the major figure is not included in the group of girls, and plays alone. The rationalization given is her disinclination to play any of the games chosen by the other girls. In the third story the identification figure is sad and wrong; the last story is an expression of frustration because of inadequacy. Throughout is a marked tendency to deny felt failure and to look for the positive, even if not happy, resolution.

The Rorschach suggests that on deep personality levels, E has learned to remove herself from the struggle of coping with her emotions and with the conflicts of the world by retreating to the protection of the passive, detached onlooker. On this level we see that there is not an absence of capacity for fantasy despite her emptiness in finding the verbal fantasy responses to the story telling. In fact there is a turning inward, characterized by a high degree of guardedness and control and a concomitant lack of critical involvement in relating to the outside world. The Rorschach suggests that denial and repression are important defenses for E, and that her own angers, frustrations, dependency needs, and sexuality are such threats that they have been long since buried to the deepest recesses. The result is an isolated, unhappy, minimally active, and overtly a passive compliant youngster. With such a pattern it is not surprising that she is not able to direct energy to produce consistent high level scholastic achievement despite obvious potential to do so.

E's personality pattern seems a reflection of her mother's. Mrs. E is a large boned woman with only a third grade education whose speech patterns are even more colloquial than E's. She lives alone with two children, E and E's brother, who is two years younger. She has a son who is seven years older than E, but did not raise this boy and is vague about his whereabouts - "I think he lives in Brooklyn." Neither she nor E has had any contact with E's father in years. In front of E she says she "can't stand men" and would never consider them suitable to associate with. In fact she says that she has no friends at all and has social contacts only with her children, her sister who lives in the city, and a woman neighbor who lives in the next apartment.

E also says she has no friends except for one past schoolmate whom she sees on weekends. "They mostly get you in trouble so I just don't have any friends." Her mother says, "I think the less friends you have its better that way. I don't think it's too good policy to have five or six friends. I like that she has one girl friend and her cousin (girl four years older than E). That's enough."

E says she spends most of her time "looking out of the window" or copying from the encyclopedia. Except for shopping on Saturdays with her mother, cousin and/or girl friend she never leaves her apartment after returning from school. Her mother "is allowed" to work two days a week. She goes to work after the children leave for school and returns home before they do. Other than that she says she goes nowhere except to shop with the children, to visit her sister with the children, or to church, also with the children.

The apartment is a rather cluttered, poorly furnished, two-bedroom railroad type on the top floor of a very old, above-store tenement. E shares a room with her brother.

Mrs. E and E agreed that their views on behavior and other issues rarely conflicted. The only problem they could think of was when E would ask her mother to wash the dishes because she wanted to go to bed. Under these conditions Mrs. E frequently complies. It is interesting to note that E goes to bed at 7:30 to 8:30 every night (nothing else to do?).

E is modishly dressed. When seen two years after the initial study she was wearing a stylish, attractive hairdo, tasteful but dramatic hanging earrings, fishnet stockings and a dress in currrent popular style. She does not wear make-up. Her mother too was attractively attired. They usually shop together and agree in taste. These patterns exist despite the fact that they are mainly supported by the Department of Welfare.

Mrs. E was very interested in learning about opportunities for further education for herself. She was worried about her lack of literacy, and was wondering if she could attain some kind of nursing position in a hospital. E wants to become a registered nurse, exactly what her mother would like her to become and what her mother wishes she herself could have been. They both want E to go to college.

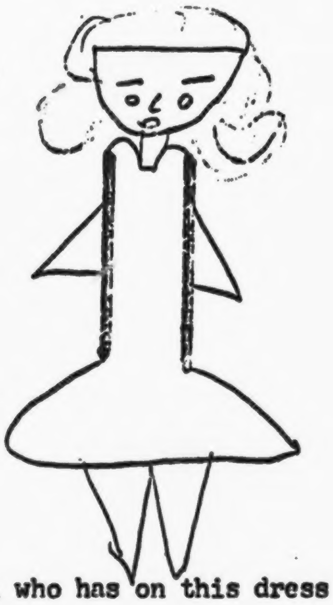
Mrs. E is also concerned about E's school work. She says she visits E's school and sounds very knowledgeable about her teachers and her school experiences. She is presently worried about E's relative lack of homework and has been going to school about this. She believes that E has improved scholastically. As to past difficulties, "I don't think she was too interested in her books. That's why I think they should have more work to study. Now I make them get a book and read." She has put E in an "open enrollment" school.

On the whole, E seems to be a mirror image of her mother - attractive, but disappointed, repressed, lonely, isolated, unhappy, passively bearing life rather than struggling with it. On the other hand, she represents the aspirations of her mother and as such, retains hope. Apparently her mother has not completely resigned herself either, as indicated by her expressed interest in further training for herself. To this point the balance of forces has resulted in a child of normal intellectual ability functioning on a retarded and marginal scholastic level when assessed at the fifth grade and again at the seventh grade. One could speculate that if E found it safe to open herself to her own feelings and to relatedness with others she would also be better able to open herself to the world of learning.

Case "E"

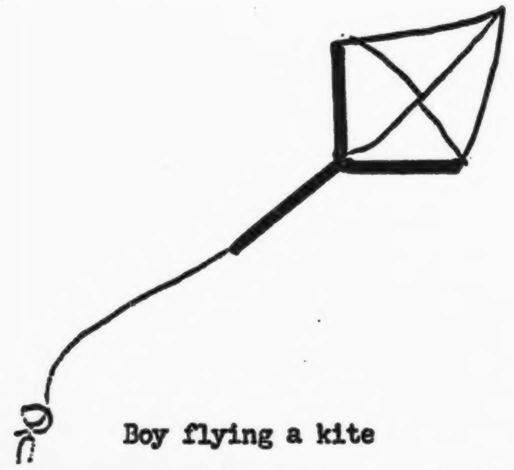
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1



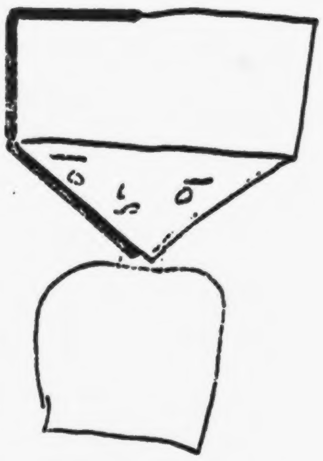
Girl who has on this dress

2



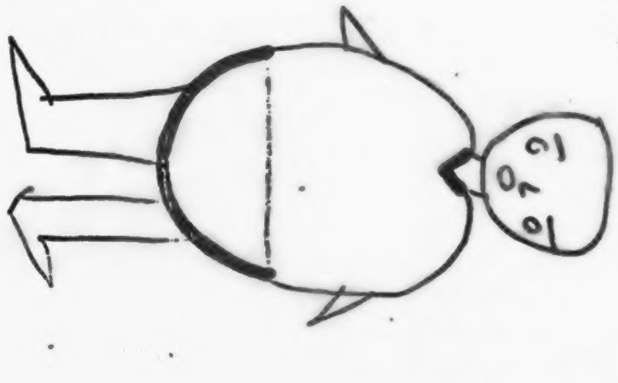
Boy flying a kite

3



Boy who's in the Army

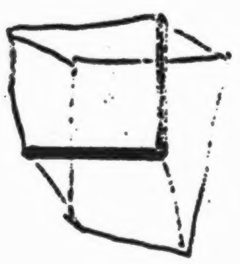
4



Humpty Dumpty

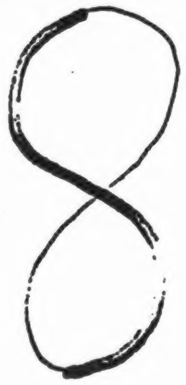
Case "E"

5



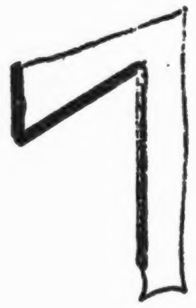
Box

6



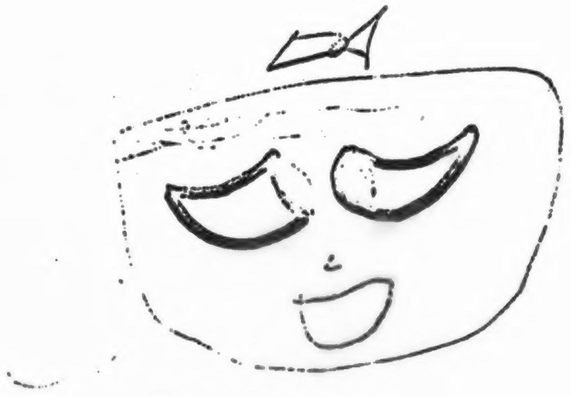
Number 8

7



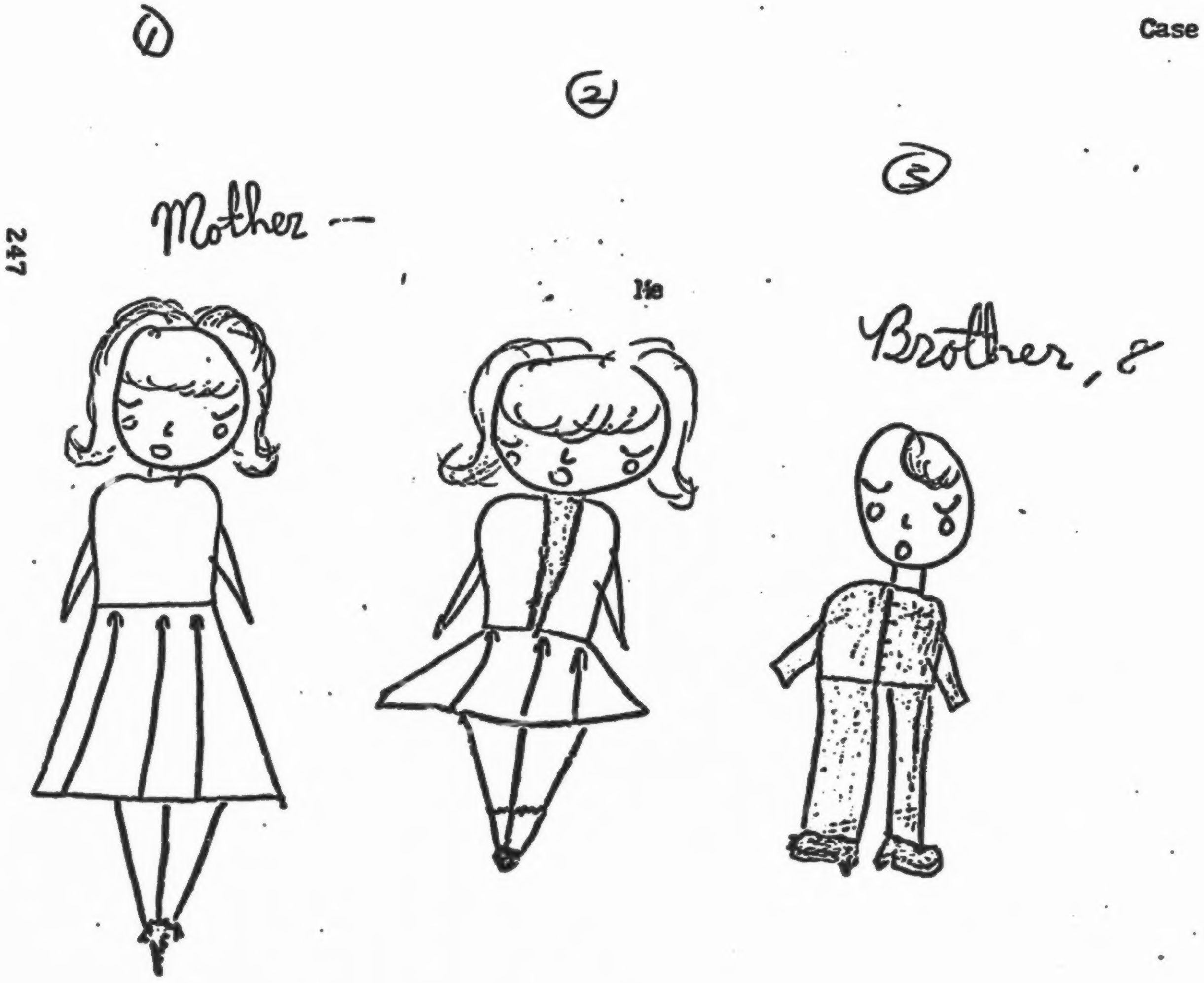
Number 7

8



Girl Cross-eyed

Case "E"


①
Mother --
②
Me
③
Brother, 8

Case "F" - Low Achieving Boy

Age at time of initial study: 10-1
Achievement Test Scores at Grade 5.2
Reading Comprehension 2.5
Arithmetic Computation 3.0

Age at second interview: 12-6
Achievement Test Scores at Grade 7.2
Reading Comprehension 4.5
Class Marks: Satisfactory or better
(ranging from 65 to 95)

Family Composition
Mother, Father
Older siblings: 3 brothers, 1 sister
Younger siblings: 1 sister

"F" is a small youngster, somewhat below average in height and weight. He has a smiling, shy manner, yet is quick to respond and sometimes even "jolly." His speech is colloquial and he is verbally awkward, hard put to express himself with words. In the fifth grade he was reading at the middle second grade level, and scored at the beginning third grade level in arithmetic. Thus he is one of our low achievers.

The pediatrician rated F as "good" in neurological status, vitality, nutritional status and posture, of stocky body build and at the early stages of sexual development. Because of several dental extractions and scarred ear drums he was rated as only "fair" in overall medical condition. Vision was rated as 20/20, he is right handed, right footed and left eye dominant.

On the intelligence test F ranged from borderline level functioning through bright normal, with most functioning on the average level. He had most difficulty with the problem solving subtests that required abstract reasoning, i.e., Similarities, a test of verbal concept formation; Block Design, a test of non-verbal reasoning ability; and Mazes, a test of planning. These three were handled on the borderline level of ability. More practical problems that also required reasoning and judgment were handled with greater facility. With these subtests (Comprehension, Picture Arrangement) he functioned on the average level of ability. His vocabulary was also rated at the average level. He attained bright normal levels in a test of attention and recall (Digit Span). Thus we see a pattern of mostly average level functioning with indications of better potential, but a potential that is expressed in facility mostly with familiar tests, and that is blocked when dealing with unfamiliar tasks that demand specific problem solving techniques. On the WISC,F's verbal scale IQ was 97; performance scale IQ, 86; full scale IQ, 91.

He sorted objects into 15 groups which was a higher number of groups than average for the low achieving boys, indicating lesser ability to arrive at commonality among disparate items. His percentage of superordinate reasons was likewise inferior to the average for low boys, again indicating lesser ability to think in more abstract terms. On the other hand, he was able to be sufficiently flexible and spontaneous in his thinking to give an average number for his group of possible uses in the Uses for Objects test, and slightly better than average in the number of different categories used. The originality, complexity, and appropriateness of his Drawing Completions (included) were all somewhat below the average for low achieving boys. On the whole, therefore, F's problem solving skills, in both formal WISC test items and less formal sorting and drawing tasks reveal less facility in coping with abstract concepts. His linguistic analysis was also below the average for low achieving boys for total depth and end complexity, further indication of relatively poor development of basic intellectual skills.

F's Bender Gestalt designs were tensely and uncertainly executed. There were reversals, difficulty with angles, and a tendency to drift in control.

His figure drawings had the same inconsistency and tension in execution although they were stylized. The single figure was placed so far to the bottom of the page that his lower legs and feet could not be included. With the family drawing none of the females had feet, but the males did. The slant of the males, however, lent them little stability despite their feet. The exaggerated heads and little bodies of the stiff figures suggest F's concern about adequacy and social relating. The difficulties manifest in both the Bender and the figure drawings suggest a lag in perceptual-motor coordination.

The teacher rates F's school behavior at 80, which is precisely at the average for low achieving boys. She gives him only four extreme ratings including only one extremely positive: "almost always" neat and clean in appearance. He "almost never" does more than required or considers and plans answers or activities, and was rated as "almost always" restless and fidgety. He was rated as "seldom" fearful, tense or submissive, and "usually" careful with his school work, well liked by other children, responsible, concerned about doing well, and accepting of his teacher's authority. He was also rated as "usually" easily discouraged. The teacher felt called upon to add a personal comment to this rating: "F seems to have parents who are interested in his welfare. They see that he comes to school clean and neat every day. However, I have neither seen nor had any form of communication with them. The child exhibits an exceptional talent in art. I think if he is given proper guidance he could become a very good student." Apparently his teacher felt that he had untapped potential, and tended to blame his parents for not providing sufficient push. The art talent was not demonstrated with our tests.

F's self-rating was considerably more positive with respect to his group than the rating of his teacher. He scored at 61 compared to an average of 55 for low boys, and compared to an average of 60 for high achieving girls who tended to rate themselves the highest. He said that "most of the time" he was neat, smart in school, good in art, a hard worker, trying his best, going to do well, good in sports, good at making things, and liked by other children. He said he was "hardly ever" a pest, sad or nervous. The optimism of his direct self-portrayal is also expressed in his narrative on "The Way I Am in School," - "I do my work good in school. Sometime I get 100 and sometime I get 90. In social studies and reading I do good. In math I do all right. In English I do all right. I do good in spelling."

Does F really feel that he is so adequate or is he "whistling in the dark?" The projective materials should be of help in understanding this. His drawings suggest the tendency to overcompensate for felt weakness. In his Story Telling protocols, the identification figures are inadequate and sad, which is more likely the state of his inner feelings. In Story 1, the boy is sad because "he probably din do good on his test." In Story 2 the boy looks sad because "they probably wouldn't let him play 'cause he maybe didn't know how to play so good." In the third story the boy is sad because "he didn't do his work right . . . . The teacher looks like she screaming at him." In the last story, the boy "got a sad look on his face . . . He probably thinking about that he don't wanna play cause he don't know how to play." All identification figures are incapable; authority figures are helpful but disapproving.

On the Rorschach the pervasive sadness is continued. On the other hand, we see a heightened responsiveness to the world in the form of feeling called upon to react to almost every aspect of the stimulus. Within a constricted range of associations he manages a facade of optimism even on this level. For example, he had to remark as to how "pretty" colors were even on cards that were black and white. Passivity, goodness, and gentleness are the faces he turns to the world. Beneath is the anxiety about retaining control, rejection of controversial feelings of anger or, indeed, of any spontaneous emotional responsiveness. His tendency to remain in mundane, safe areas of thought and to cling to those small units of his experience that he feels he can master absorb so much energy, that the creative potential that his teacher observed seems to be submerged.

F is one of six children. He has 20 year old twin brothers, 18 year old and 9 year old sisters, and a 15 year old brother. His mother is a large, heavy-set woman. His father is a cook who works six or seven days a week. The family resides in a low rent housing project. Their apartment is adequately large, and simply though comfortably furnished. Religious pictures and a framed picture of President Kennedy are displayed in the living room.

While F's teacher states that F's mother seems insufficiently involved in his scholastic progress, F's mother does display both interest and knowledge about F's school work in combination with a kind of passive detachment. She was concerned about his reading retardation and notes two years after the initial study that he was doing better in junior high school than he had ever done in elementary school. She verbalized definite ideas about teachers. She called various teachers by name, identifying the good ones, the poor ones, the active ones. As to open enrollment, she said many parents told her that the neighborhood junior high was a "baby sitting school." "I wondered what could be more baby sitting than at PS... (the elementary school F attended). I decided to try him at the junior high and if he fell behind I would transfer him. I believe if children are going to learn they are going to learn. They take them out of the neighborhood and send them around, if they're one minute late the bus leaves them." She thinks the teachers are not interested in the children. "They just sit there and wait until 3:00. Maybe they're prepared but they don't care enough. They should have better teachers right here." She believes the teachers in the junior high are more adequate and therefore F is more motivated and more effective. The school reported that his class marks have been satisfactory or better although his standardized reading comprehension test score was only 4.5 at the beginning of seventh grade.

F leads an active social life. He has a group of friends his own age with whom he plays baseball, football and basketball. He likes model car racing, has his own set and races at a sporting goods hobby center with his brother and friends. He also roller skates and bike rides. He belongs to a Little League baseball team.

His mother insists that he report home after school, then he can go out to play. He received his first spanking in two years because he did not return home from school until 7:00 P.M. one evening because of a basketball game. He is not expected to perform any household chores. Thus he seems to have a great deal of free time.

F's mother says, "he gets along well; he's not so hard to handle." She cites the fact that she has never had to pay fines (for walking on the grass or playing in the hallways, etc.) because F has always respected the rules of the project. His next older brother, however, when younger, did not show such respect.

F is a chronic bed wetter. So is the next older 15 year old brother. His mother accepts this as a fact of life, but seems to reassure herself by referring to friends and neighbors who tell her that the boys will grow out of the habit.

The older children were all graduated from high school. One twin is seriously involving himself in dramatics, the other is making up courses so that he may attend college. The oldest girl is working as a nurse's aide and is planning to attend a school of practical nursing. The cohesiveness of the family is indicated by the practice of F and all the boys getting up at midnight (the end of her work shift) to meet this sister at the corner in order to escort her to their apartment. This practice exemplifies the caring which seems to be characteristic of this family, but at the same time suggests a kind of disregard for some of the individuals.

F's mother says that she would like F to attend college. F says he would like to be an engineer. His mother says that her husband is a disciplinarian but agrees with her in basic child raising attitudes, and about plans for the children.

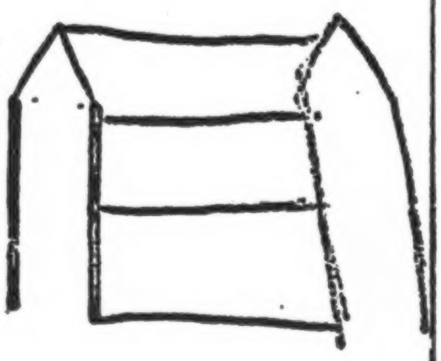
One sees a home background that is apparently accepting but which may tend to lose F in the crowd. There seems to be little specific stress on doing well, but an interest in supporting whatever initiative he is able to summon. Emphasis on being conforming and "nice," and reward for not causing trouble are evident, and, as we have seen, have deeply influenced F. His underlying tension attests to the loss he experiences in living up to these values while his sense of individuality is apparently more or less ignored.

It is possible that with time, F has been able to harness his ability for scholastic progress with somewhat greater efficiency. His marks have indeed improved since the initial study. The most recent social picture reveals a friendly, conforming youngster who is very likely exerting greater and greater control over his natural reactions but who has found compensatory release in sports and social outlets. Thus he has developed the balance that permits him to use his resources somewhat more effectively. He remains, however, a tense, unhappy youngster, troubled by a deeply rooted sense of inadequacy, too constricted to direct energy to creative problem solving, or even to function consistently in other intellectual spheres, devoting himself to proving that all is well and that the black world is full of pretty color.

Case "7"

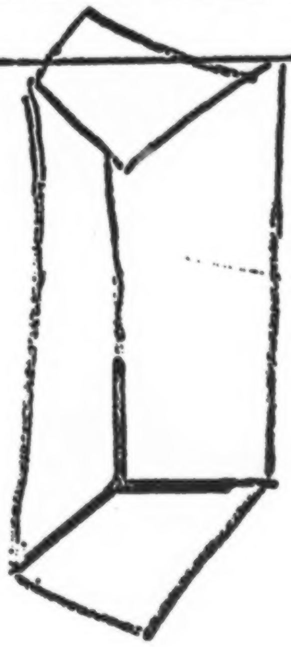
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1



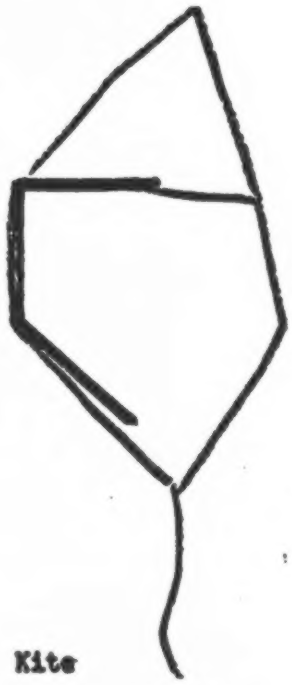
House

2



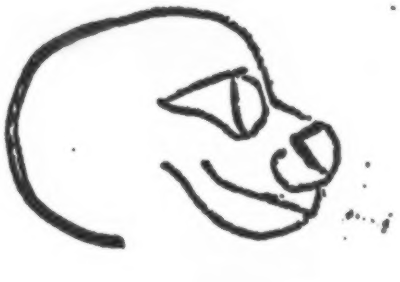
Box

3



Kite

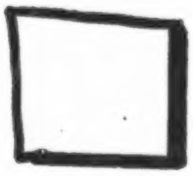
4



Man

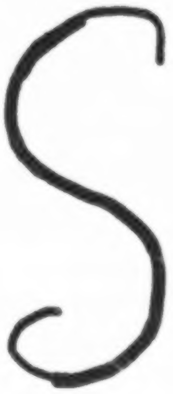
Case "F"

5



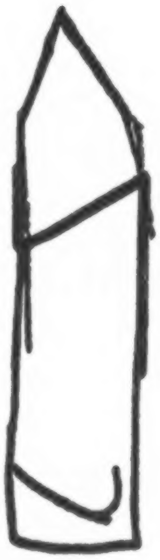
Box

6



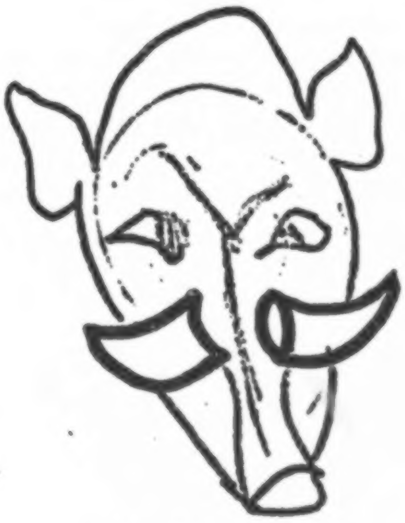
Letter S

7



Rocket

8



Bull (or Buffalo)

Comments on Cases A through F

A comparison of the case studies presented thus far indicates that there are striking similarities among all six children. In fact, the clearest area of definite difference was the fact that four of the children were able to produce academically and the other two were not.

The children were inconsistent in functioning on the intelligence test, with much overlap of range. Their handling of other tests of intellectual functioning was likewise inconsistent, except that the lack of specific structure needed to meet the demands of these other tests seemed to make for relatively less adequate results for the low achievers. On the whole, neither capacity nor organization of intellectual productivity were appreciably different among the high and low achievers in this group of case studies.

Even the sense of self-adequacy did not clearly differentiate these high achievers from the low achievers. The boy with the highest manifest intellectual potential, Case D, was one of the most inadequate in self-concept. Brave fronts to the contrary, these children tended to feel incapable and oppressed. There was, however, a trend to more struggle with the environment on the part of the high achievers. The two low achievers seemed more entrenched in passivity and compliance as general coping mechanisms and they seemed to be more constricted and self-limiting on deep personality levels. The high achievers, while essentially conforming in family relationships as well as in school, retained more of a sense of private self-determination, eventually if not presently to be expressed.

All of these parents seemed involved, supportive and interested, although the parents of the boy with greatest ability did not seem to recognize his potential. Also, the three other high achievers had strong influences from maternal grandmothers; neither of the two low achievers had this. All of the children seemed carefully watched with strong pressure for conformity to parentally set social standards. The bias of the entire contact for the study undoubtedly accounts for some of the elicited emphasis on education, but yet, doing well in school seems legitimately to be an area of stress in all the families. Perhaps the high achievers could be described as having identified more closely with scholastic success as a source of strength and self-justification.

The high achievers were maintaining their status in seventh grade. It was also true, however, that the low achievers had made two years progress in reading from fifth to seventh grade, and the low achieving boy seemed to have improved in his classroom performance.

On the whole, the children seem essentially more similar than different, subject to the same degree of qualitative stress from the inside and from their families; perhaps chance factors permit some to compensate or express themselves through scholastic achievement and the others to experience blocks in so doing. Early school experiences and teachers' perceptions of and interactions with the child, as discussed in the body of this report, may be the source of some of these chance factors.

It is instructive to compare the clinician's impression of these children with the group findings they were chosen to exemplify. While the group findings revealed significant quantitative differences between the achievement groups, it is important that the clinician's view of these children and their families was not one of marked disparity, supporting the position that the low achievers have the capacity to learn but also that the high achievers have difficulties that need to be met. As pointed out in the discussion section of the text, there were varying degrees of overlap in all the variables considered, with the exception of the selection variable of school achievement.

Here, as in the total sample, it is clear that the children do relatively poorly with visual-analytic tasks and comparatively well with verbal tasks. Their verbatim materials, on the other hand, illustrate the divergence of their language usage from standard English forms. The high achievers, however, are more accurate in both verbal and nonverbal tasks (compare, for example, the Drawing Completions of the two boys, Cases B and F), as well as usually being more cautious.

The greater positiveness of surface self-ratings as compared with projective indications which emerged in the group findings was also demonstrated in these cases, as was the somewhat greater ego strength of the high achievers. It was striking, and again consonant with the group findings, that the children were almost uniformly seen as sad, anxious, and depressed. Also, in keeping with the quantitative data, was the fact that the teachers of these high and low achievers saw them more differently than they viewed themselves or than they were viewed by the psychologists.

There was no specific type of family composition that characterized the high and low achievers either in these case studies or in the total sample. Concern for education and considerable control of the children's activities were prevalent with, however, somewhat more passivity and detachment observed in the parents of the low achievers and somewhat more constructive interaction between parents and child among the high achievers.

The case of high achiever D, who is most atypical, illustrates the fact that the achievement of any one child may rest upon particular areas of strength and may occur in spite of areas of weakness. He is unusually gifted in cognitive abilities but low in self-concept and his parents are relatively less involved than the other parents.

The second set of cases (G, H, J, K) which follows serves to demonstrate further the points brought out in the first set.

Cases G, H, J, K

The tabulation below outlines, for the second set of cases, the items in their family backgrounds and in IQ performance on which they were similar. The achievement test scores used to classify them as high or low achievers in the initial selection are also given.

	"G" High Achieving Girl	"H" Low Achieving Girl	"J" High Achieving Boy	"K" Low Achieving Boy
Age (in Grade 5.2)	10-4	10-1	10-4	10-11
Reading Comprehension Score (Grade 5.2)	5.3	2.8	5.1	3.2
Arithmetic Computation Score (Grade 5.2)	5.3	2.6	7.5	3.6
Verbal IQ (WISC)	101	105	100	101
Performance IQ (WISC)	80	72	86	79
Otis IQ (in Grade 3)	93	96	87	88
Family Composition				
Parents	M & F	M & F	Mother, Father not at home but interested	M & F
Siblings	3 older, 2 younger	3 older, 1 younger + cousin	4 older, 3 younger	1 older, 2 younger
Educational Level	Less than junior h. s.	junior h. s.	Less than junior h. s.	Some h. s.
Occupational Level	Unskilled worker	Unskilled worker	Unskilled, on Welfare	Unskilled worker
Birthplace				
Mother	South	South	South	South
Father	South	South	South	South
Child	N. Y. C.	N. Y. C.	N. Y. C.	N. Y. C.

Case "G" - High Achieving Girl

"G" is a nice-looking, neatly-groomed child, a little slimmer and shorter than the average for the high achieving girls. When first seen at the age of 10-1/2 years, she clearly showed signs of puberty and awareness of femininity.

There are some puzzling contradictions in G's test and interview materials. The most striking of these is, first, that to outsiders she seems colorless, remote and apprehensive whereas her mother describes her as overbearing at home. Secondly, her test performance was intellectually constricted and impoverished, yet she is, although not among the highest achievers, one of the children who is working up to grade level.

In school, G's behavior is exemplary. Her teacher reports that she "almost always" does neat, careful work; she can be depended upon to carry out responsibilities, and do even more than is required; she wants to do well and rarely needs encouragement. She is attentive, participates voluntarily in class activities; she sometimes speaks out of turn but usually accepts and respects the teacher's authority; she doesn't flare up or fight but in fact is liked by the other children, and chosen as their playmate or partner.

Her mother, on the other hand, thinks that G is resistant to adult authority. Mrs. G reports that in spite of stern parental punishment, G still persists in "talking back" to adults; she insists on "having the last word" and is so authoritarian toward sibs and peers that they find her disagreeable. Mrs. G also reports, however, that G is better in school than at home. Mrs. G's disapproval may be overstated since she also says that G is a bright child, not really a "serious problem" at home and that she and her daughter are as "close as sisters". She attributes G's behavior to the fact that G was "daddy's girl" and he "spoiled her".

G also has inconsistent opinions about herself. She describes herself as a big help at home, full of fun, liked by other children, polite and hard-working in school. She thinks that she is smart and going to be successful. On the other hand, she states that she feels sad and nervous "most of the time", and about "half the time" considers herself shy and lazy. Her composition on the way she is in school, written in an extremely careful precise hand, reveals her conflicting feelings about herself as a student: "The way I am in school is in between. Sometimes I am good and sometimes I am bad. Sometimes when the teacher asks us to do something I do it anyway, even if I may not want to because I know it's for my own good . . . and sometimes I talk too much."

The examining psychologists also noted some contradictions. They saw G as reserved, somber, a frightened child, who, nevertheless, shows some capacity for outgoingness and friendliness. Her Rorschach responses suggest that she is intimidated and constricted, in a state that is close to a reactive depression. She gave only 12 responses (average for the high achieving girls was almost 20). Her Drawing Completions (included) and her stories to the Story Telling Task (included) mirror these same qualities. Her drawings are carefully and parsimoniously executed, with accurate detail, and are appropriate to the stimulus, but there is little creativity or freedom of expression compared to K's drawings, for example.

Notice the brevity, sadness, and tension in the stories. In the first story, she sees "a boy is doin' his homework, he's tryin' to see what he should do first". Upon questioning, she says that the boy is worried and has a serious expression because he does not know what to do. In the second story, the resolution is positive but only because "they think she's a nice girl and she wants to play very bad". In the third and fourth stories, the central figures are sad and worried because they don't know what to do and need adult help. Repeatedly she viewed the children pictured as sad, unable to proceed or learn on their own. They were dependent on adult assistance and, when they accepted this guidance, they received adult approval as well. As G put it "the teacher is glad that he wants help from her".

G's Figure Drawing (included) is also executed with care but extremely primitive and immature, more typical of a much younger child. The figure drawn was identified by her as a nine year old boy who is looking at children playing in the park.

The two clinical psychologists who rated her test protocols, independent of each other, both guessed that she was a "low achiever" and rated her as an anxious, controlled, dependent and compliant youngster who may have a perceptual-motor impairment which they thought was a result of a developmental lag rather than brain damage or emotional disturbance.

No doubt, her fears and worries about doing the right thing as well as her childish dependence, inhibit her productivity and affect the quality of whatever she produces, even though she wants to and does try, and even succeeds sometimes as evidenced in her WISC verbal IQ score of 101 and her reading and arithmetic scores of 5.3 at beginning of fifth grade. One gathers from the psychological tests that underneath her bland facade and protective coloration, G is "anxious to learn" but is very unsure of her ability. Adult guidance enables her to do her best work. Yet, because she blames herself for her difficulties and feels that she should be more on her own, she holds back from asking for help or shies away from work that is hard or unfamiliar, exposing herself to as little risk as she can.

Her level of productivity is limited compared to the other children. She confines herself to unoriginal, unimaginative responses and is sparing even with these. As previously stated, she gave only 12 responses to the Rorschach and only seven possible uses for three objects on the Uses for Objects test, where the average for her group was 12.1. It was consistent that her use of the neutral position on the Semantic Differential was much more frequent than for the other high achievers, indicating possibly an inability to take a definite position.

What are some of the factors in G's background that might have contributed to her present outward signs of being a good, compliant, plodding child who is achieving fairly well in school but who is so frightened, so sad, so lacking in confidence and disturbed underneath?

G is the fourth of six children who range from eight to seventeen years. They share with their parents the five-room, three-bedroom apartment where G has lived all her life. It is located in a fairly new housing project which is well cared for but shows signs of deterioration. The home is neat and clean, although overcrowded. There is a television set and some books but no telephone. The dining room is the center of family activity.

Mrs. G was brought up in the deep South where she was reared by her maternal grandmother. Her own mother died when she was an infant and her father did not assume any responsibility for her. It is with Mr. G's family that they have a great deal of contact. He also came from the South but has many relatives in the metropolitan area. Mrs. G had less than a junior high school education, but this was the most schooling of anyone in her family. When questioned, she knew nothing about her husband's level of schooling. He seems less well educated and less articulate than his wife. Mr. G is a friendly but self-effacing man who works as a machine operator in a factory. He gets home at 4:30 P.M. in time to help the family with the evening meal which Mrs. G prepares before going off to her job. She works as a cleaning woman from 1:00 to 8:00 P.M.

G was born when her mother was 33. The normal birth followed a normal pregnancy. G walked at 9 or 10 months, talked at about one year, and was completely toilet trained by 18 months. But she cried constantly for attention which she got mainly from her father who "spoiled" her , according to Mrs. G, and encouraged her to feel that she could "have her own way".

Mrs. G believes that G's reluctance to leave her father caused difficulties when G went to kindergarten at the age of 5; she had such severe tantrums that she was soon withdrawn from school and stayed at home until she entered first grade at six years. By then she had "grown up" enough to make a good school adjustment.

G's two brothers, one older and one just younger, are having problems more serious than hers. Because of their great difficulty in learning to read and their very poor behavior, Mrs. G, much to her embarrassment, is called to school constantly. She has no idea of the cause of their troubles. The three other children are more successful students. The oldest daughter was graduated from high school, works part-time for a large company and attends evening school. The next oldest child, a daughter, is taking a business course in high school. The youngest child, also, does well.

Mrs. G seems to take a considerable interest in G's academic life. She is very pleased with the school and its teachers. She believes that G is "very bright," especially in reading and would be very proud if she could graduate from an academic high school and go on to college. She would like for her to be a nurse. She considered letting G commute to an open-enrollment junior high school "just to get the best for her." She thinks, though, that G will have to go to a commercial high school since they have no money for college and her marks are not of scholarship caliber. In any case, Mrs. G is glad that the opportunities for education have improved because she wouldn't want her children to have the "tough" life she has had. She expects that they will be able to make a better living and that education will help G become a good citizen and "make a woman out of her."

G's mother praises her and does things for her when she does well in school. She helps G with homework as does the sister who taught her to write her name and some numbers before she went to school. G would like to be like her sister "cause she's nice; she helps my mother around the house." G's ambition is to be a nurse or a teacher and she believes she will have enough money to go to college. However, at the present time gym is her favorite school activity. Math is very hard for her and she would rather play than do schoolwork. Only a very small percentage of the high or low achieving girls expressed such nonacademic preferences.

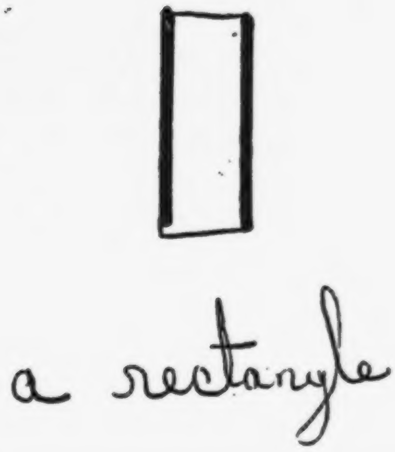
G was brought up in a home where there was a great deal of inconsistency. Her mother provided rules and insisted upon compliance; on the other hand, her father, a weak figure himself, "spoiled" her. This combination may have served to discourage the development of adequate judgment and self-confidence and prolonged her immaturity. Also, too much emphasis on compliance as the route to school success may account for G's being a dutiful but timid student for whom adult approval is too large a portion of both motivation and reward.

A solid positive factor in G's family situation is the stress on the value of education. Her two older sisters have been successful students and may have served as models. The parents give more than verbal encouragement toward high academic goals. Her mother gives some practical assistance with homework and, significantly, both parents provide living examples of how to be responsible and hard-working in the face of worries and hardships. G, in turn, keeps plodding along; despite her anxieties and discouragements, she learns and progresses.

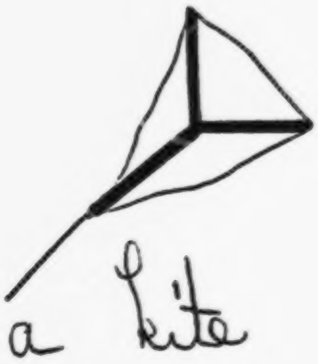
Case "G"

Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

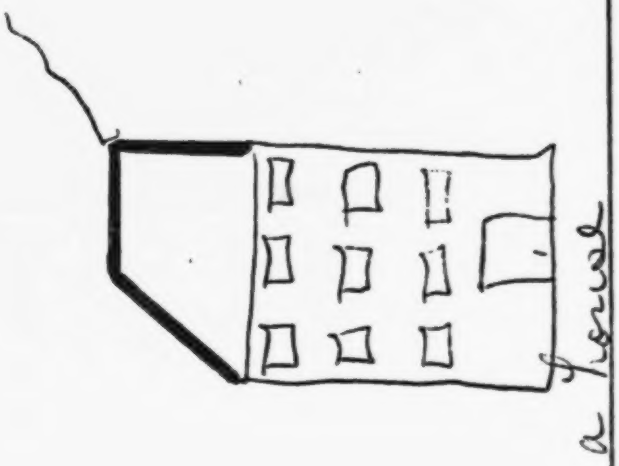
1


a rectangle

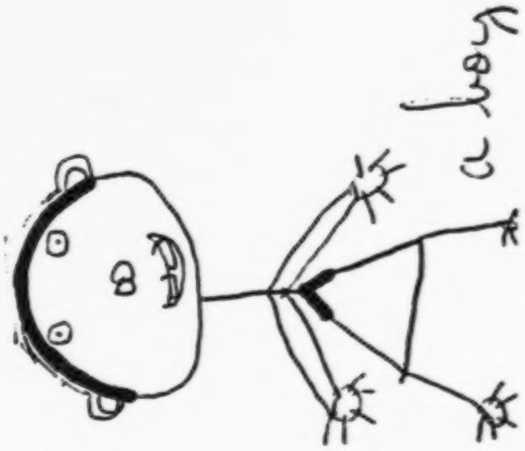
2



3



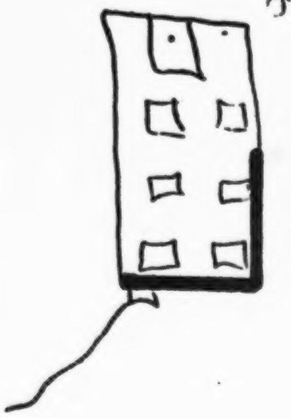
4



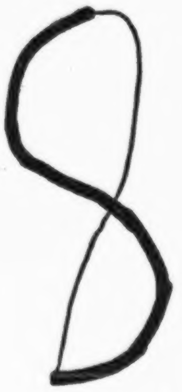
Case "G"

5

a house

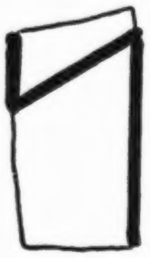


6



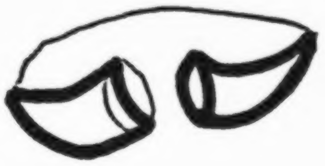
the number eight

7

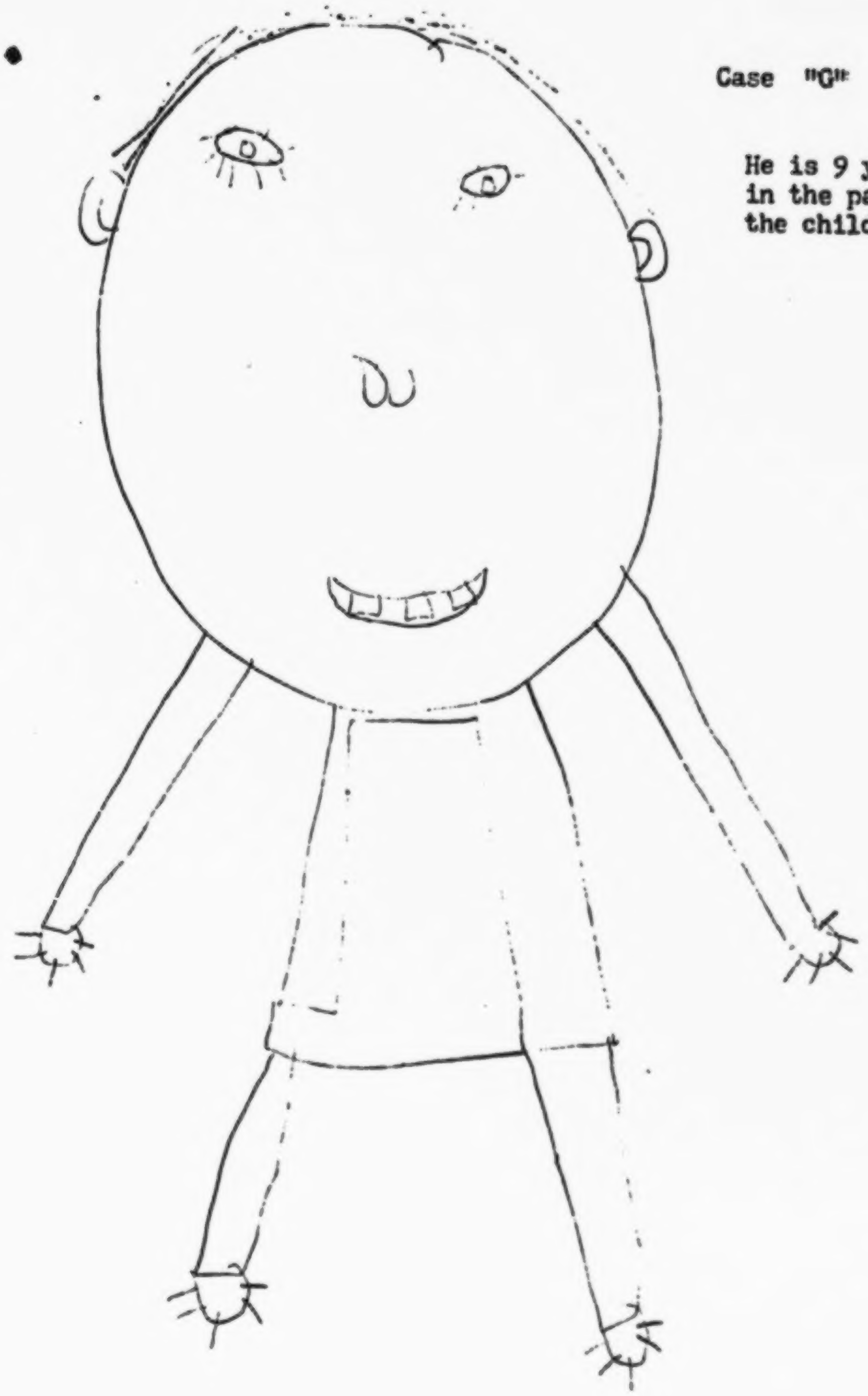


a cigerette box

8



earphones



Case "G"

He is 9 years old. He's in the park looking at the children playing

Case "G": Story Telling Task

(Stories As Told Before Questioning)

Picture 1 (10") A boy is doin' his homework. He's tryin' to see what he should do first.

Picture 2 (7") Three little girls are playin' a game. Another girl comes with her books. And she wants to play the game with them - and they deciding whether they should let her play the game or not.

Picture 3 (8") A boy's teacher's looking at his paper and she's telling him what to do - an' the boy looks sad because he don't know how to do it so his teachers helpin' him with it. Since his teacher's helpin' him with it he looks like he knows it. And he's gonna try and do it again.

Picture 4 (6") This is a little boy that's worried about his music lessons. The instrument that he plays is a violin. He's worried because there's a song he doesn't know how to play on the violin and he's going to have to learn and he needs someone to help him. And he looks like he's anxious to learn. And he wishes that there was someone to help him. And he says to hisself that if he learns he's gonna practice it.

Case "H" - Low Achieving Girl

It would be difficult to guess from H's external appearance and behavior that she is one of the low achievers. She is tastefully dressed and neatly braided; only her thick eyeglasses are a little unusual. She acts like many of the other girls; she may be even a little more subdued and reserved. She is of average height and wight, has good posture and coordination and her body shows signs of approaching puberty. Her history, however, reveals that she has suffered from asthma and allergic conditions.

H's teacher gives her almost the highest ratings for being hard-working, involved, and persevering and for voluntarily and quietly doing more than is required even though she sometimes seems fatigued. The teacher often sends notes home commenting on H's good behavior.

Some of H's test productions and her statements on questionnaires and in interviews also resemble more closely those of the high achieving girls than the low. This applies to the level of her responses on the intelligence test tasks, especially the verbal items where all her scores were above 10 except on Digit Span, although she did relatively poorly on performance tasks, especially on the Mazes and Picture Arrangement subtests. She achieved a verbal IQ score of 105 and a performance IQ of 72. Her intellectual functioning is thus very mixed. She scored relatively high in some instances on tests of abstract thinking such as Similarities (score of 13) and Block Design (8) while receiving her lowest score in Picture Arrangement (2), also a test of abstract ability. The uneven quality of her performance was evident also in the Uses for Objects task. She evidently tried to produce responses giving many more than the average number of uses for the three objects (30 compared to an average of 13.6). Although she was able to think of several different categories, she gave many repetitive listings within categories, e.g., for "brick": build a house, build a school, build a barn, build a project, build a store, etc.

Her self-ratings on such qualities as neatness, diligence, effort, deportment, and popularity with peers, her stated attitudes toward academic achievement, and her aspiration level were equivalent to the average scores of the high achievers. She wants to go to college and says, "The most person I'd really like to become like is my mother. She used to be something like a nurse and I want to be a nurse."

Apparently H has adopted her parents' ambition for her. The H family attaches great importance to education, viewing it as the Negroes' way to a better life. Mrs. H believes that H is already better educated than she is. She herself completed ninth grade but remembers being a poor student. Mr. H attended school only through eighth grade. It is Mr. H who helps H and her older brother, who is more academically successful. Mr. H is the one who speaks to her about going to college. Mrs. H's brother is a doctor and she would like for H to be one also, or a nurse. But she expects the girls, at best, only to complete high school. She hopes it will be an academic, not a vocational school. When H gets good marks, the parents are very happy and praise her.

How is it that H with all these personal and environmental assets is functioning considerably below grade level with scores of only 2.8 in reading and 2.6 in arithmetic? What are some of the factors that might account for her low academic status?

Mr. and Mrs. H were born in the South. Mrs. H came from a large family, most of whom now live in New York, and she is still very close to them. She was 15 years old when she came North and met Mr. H. They married when she was 16 and raised their five children here. All her life H has lived in the same neighborhood except for two summers with her grandmother who lives near New York. The H's would like to move out of their present neighborhood but cannot afford to do so.

In a fairly new housing project, somewhat deteriorated but not neglected, the H's have a five-room apartment. Their home is very neat and clean but overcrowded with bulky pieces of furniture. In addition to the parents, there are three children and a young nephew living in the home. Two other sons live elsewhere. One is 21 years old, the other, completely disabled by cerebral palsy, was placed in an institution several years ago. The family visits him as often as they can.

Mr. H is a laborer in construction work. Mrs. H does not work outside of the home. She appears to be very involved with her children and keeps them under close supervision. At present she seems relaxed with her family and able to cope with the many demands on her time and energy.

Mrs. H was 29 years old when she gave birth to her fourth living child, H. She has a history of complicated pregnancies, several Ceasarian sections and miscarriages. She believes that her children tend to be sickly and notes that they all have her poor eyesight. With H both pregnancy and delivery were normal but there were five days of labor after the loss of amniotic fluid and Mrs. H said the doctor remarked that the baby had been "floating in blood". At seven weeks H was hospitalized because of mucous in her lungs and since then has had asthma and frequent colds. A tonsilectomy a few years ago resulted in marked improvement in health.

In other respects childhood development was reported as normal; H talked at 11 months, walked at 14 months, and was completely toilet trained at one year. Because of her constant illnesses and because she was a "sensitive child", easily upset, for example, by noise, Mrs. H had to give her a great deal of attention in addition to having to tend to the other children and the many needs of the cerebral palsied son who was a few years H's senior.

Mrs. H believes that H's early illnesses were the cause of her poor current functioning. She thinks that H is still quite demanding; when she asks for help and it is not immediately forthcoming she "whines". Mrs. H says she is a nice child but at times is highly temperamental and "speaks loudly when trying to express herself." She occasionally has to be "smacked" for bossing everyone. She doesn't know what she has on her mind - "She really has no interest in anything except television. She gets up at 7:00 A.M. and watches it although the doctor said it is bad for her eyesight. She never studies," Mrs. H says, "I can never get her to read and reading is her greatest difficulty."

The mother reports that H helps out with household chores and takes care of the younger children. Most of her out-of-school time is spent close to home with the family. She doesn't really have any friends. As a matter of fact, Mrs. H does not allow her to go out very much but allows her to have friends in occasionally.

H's comment on her limited social life is, "Well, I used to always like to go out and play but I don't like to go out too much now . . . . I just started getting interested in reading and I just like to be in the house a lot." Perhaps H's interest in reading really is beginning to develop. What she still enjoys most at home, however, is helping her mother, just running around, playing games, telling jokes and reading the comic books in which she has a greater than average interest.

H started school with several handicaps. She has poor vision and her asthma and other illnesses disrupted her school attendance. She was absent 36 days in the kindergarten year, 99 in first grade, 52 in second grade, 16 in third grade and 23 in fourth grade. Despite these excessive absences, she was passed in each grade. When tested for this study, her performance in visual-motor tasks, such as the Bender (included), was below the average for low achievers, due to decided maturational lag and/or emotional interference. Thus, she was probably not ready either physically or emotionally for many of the kindergarten and first grade activities and further her initial learning difficulties were compounded by frequent absences.

Her low reading level, poor spelling, the poor word order and punctuation in her written work demonstrate the extent of her learning deficits. H writes in her narrative on "The Way I Am in School" (given as written): "I think I am not so good In my reding but social studees is all right, siceince is my best sujet. Art I think I am not a good drauer or pinter. But it is fun. I think jum is pretty fun, and the girls acktefadus are fun. Music is fun to, singing and playing with the inshoments. At home I like helping mother to cake and seeping the floor". School can become very burdensome and discouraging to such a child, although H expresses and sometimes exaggerates her interest and proficiency in schoolwork.

The psychological tests allow us to see that below the surface, H seems to be frightened, depressed and lacks self-confidence. She appears genuinely unhappy about her poor achievement. There is only an occasional flicker of joy and of spontaneity. On the Self-Appraisal Scale, H checked that she is nervous "most of the time" and "hardly ever" as lucky as others.

Her personality difficulties come through also in her Figure Drawing (included) which reveals anxious, dependent, unstable qualities and some immaturity in execution. Her stories (included) are limited and childish usually starting at a descriptive level with simple sentences and incorporating feelings of inadequacy and being abused. The poor quality of her production is evident in all eight Drawing Completions (included), some of which are inaccurate. It is particularly interesting that she was one of the few children who did not integrate the two parts of the stimulus in number 4. Consistent with her somewhat careless handling of the reality of the drawing stimuli was the fact that she had low scores on the caution measures.

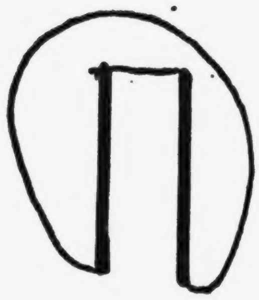
In summary, H seems fearful and withdrawn, unsure of her judgment and ability. She feels a lingering uneasiness about her physical health, realistic in part, since she still has asthmatic shortness of breath and frequent colds, though her health is better than it was in the past. The pediatrician found her general condition to be below the average for the girls and noted independently that she seemed "overly concerned with health and health examinations."

H evidently succeeds in giving a relatively good surface impression even to her teacher who has opportunities to observe her closely. That she possesses some intellectual ability is clear from her WISC verbal subtests and substantiated by the organization evident in some of her Rorschach responses; yet she has not translated this capacity into school achievement. It is remarkable that she likes school despite the stresses and limited satisfactions that it contributes to her existence. She has acquired her parents' view of the value of education and her aspirations and motivations are high. At present, her health and school attendance have improved somewhat and she is getting remediation at the after-school study center. The question is, will she be able to overcome her present academic deficiencies?

Case "H" Drawing Completion

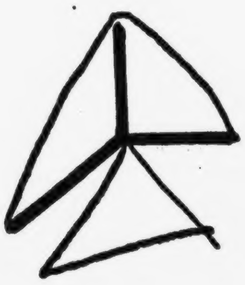
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1



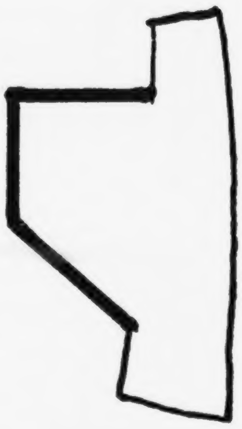
Horse Shoe

2



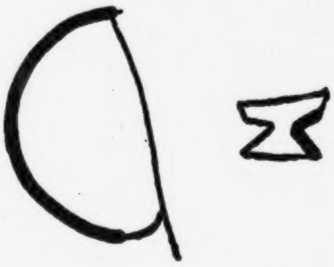
Shovel

3



Hat

4

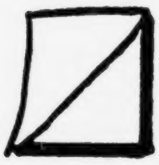


Piece of steel to break things with

Letter "A"

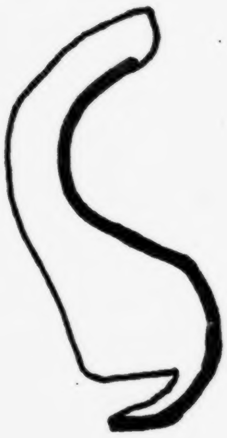
Case "H" Drawing Completion

5



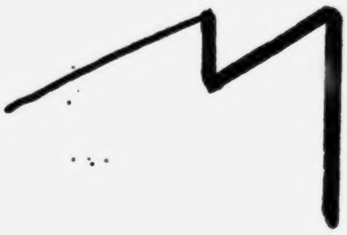
Block children play with

6



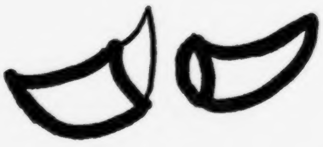
Candle, it got medsed up

7



A "M"

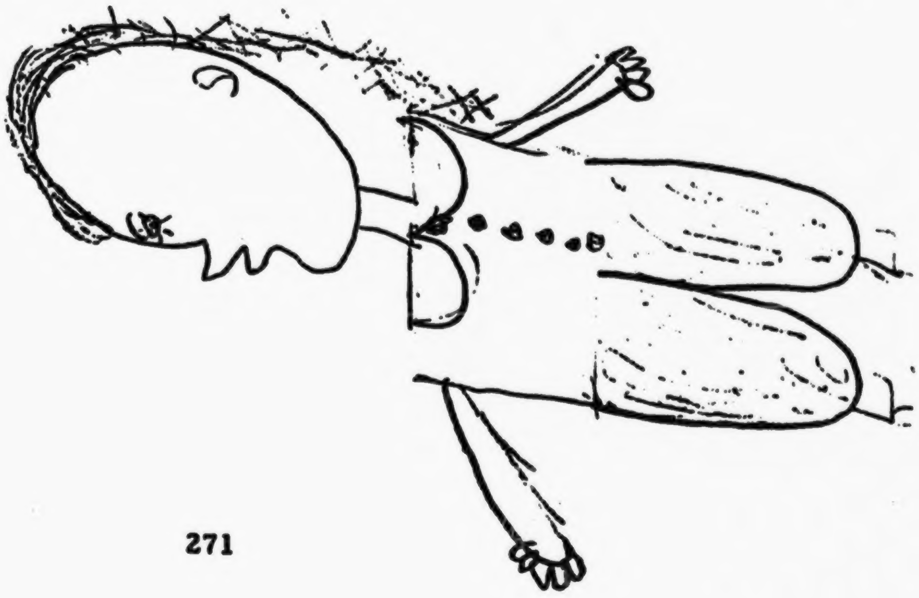
8



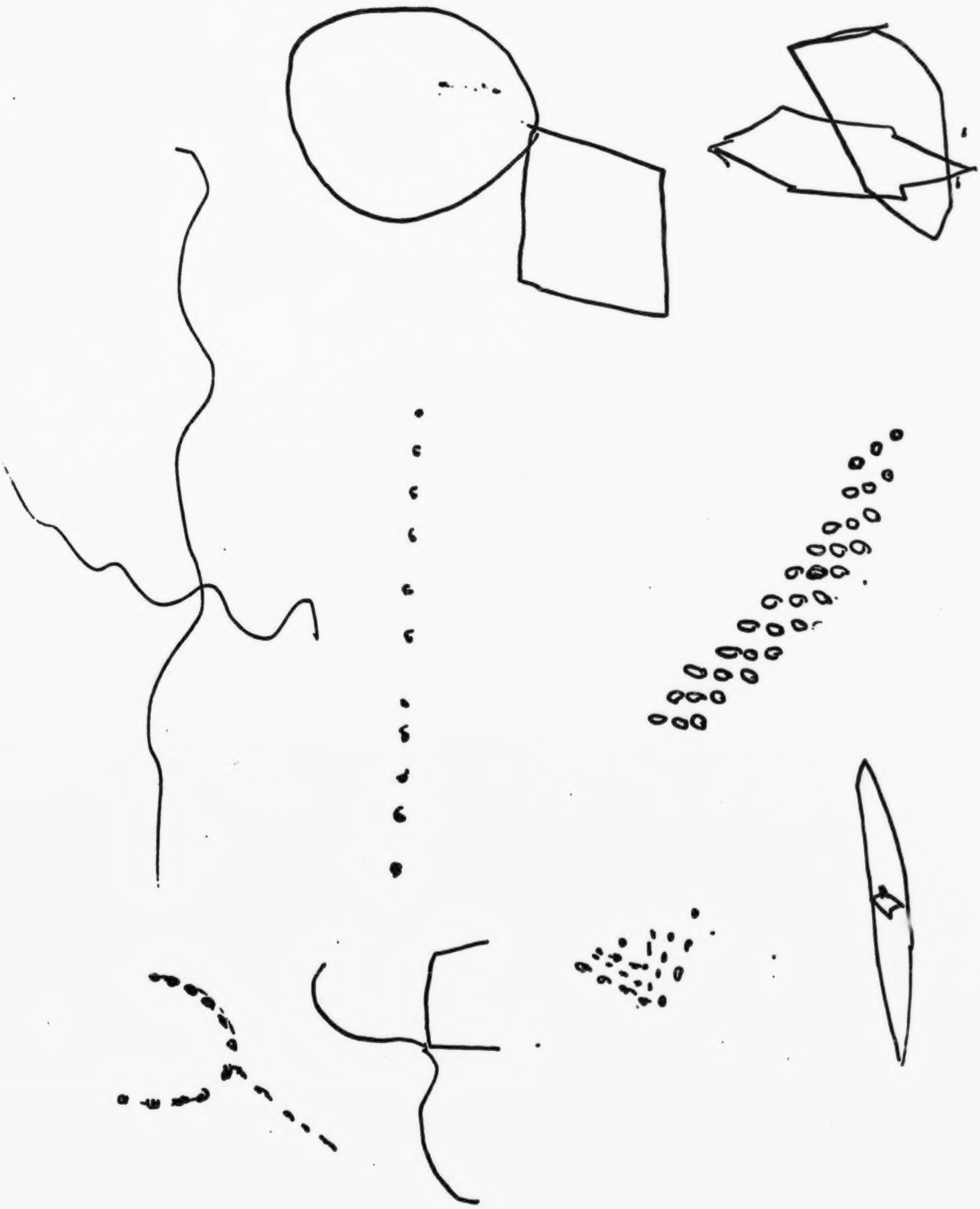
Two horns

Case "H" Figure Drawing

She's looking at someone, her Mother, She's buying her some clothes. She's 13 years old.



Case "H"



Case "H": Story Telling Task

(Stories As Told, Before Questioning)

Picture 1 (4") This is a boy. He is reading a book and thinking. Thinking. This is our plans and what are we gonna do and thinking what can it be, about the story that he's reading, a mystery story, and he's wondring what'll happen next, and maybe he thinks he would want to be in one of these stories. An thas all I could think of it now.

Picture 2 (4") This is a pitcha of some girls coming from school and they have some candy and another girl comes by and she asks for a piece of candy and they didn't give her a piece, so she was sad, and they teased her a lot so she just walked by. And she, they took her books away from her and they started to play a game and they wouldn't let her play. And they took a flower away from her. Thas all I could think of right now.

Picture 3 (4") This is a pitcha of some children in school, and the teacher is askin' him that his work is not done right, and the teacher is pointing to what's wrong and the boy looks sad. An the girl sittin' in back of him is looking at the teacher, sad too. But the teacher looks happy like. The girl behind him is doin' some writing and they have some books on the table. And their teacher is a lady. An thas all the pitcha is about.

Picture 4 (2") This is a pitcha of boy havin' his -- I forgot what you call the name of the instrument. Well he's wonderin' when can he play it. He has a book under his instrument, and he's tryin' to learn the tunes to it, and he looks sad. An' let's see, the boy is all alone in a dark room and he's thinkin' when can he ever play this instrument. Guess thas all I could think of.

Case "J" - High Achieving Boy

"J", a high achiever in this group of children, was described by the pediatrician as short and of medium, muscular build. When first seen at the age of 10 years, 4 months, he showed signs of the onset of puberty. His health, vitality, nutritional status, neurological functioning were all good. His grooming was somewhat lax and his nails were slightly bitten. His attitude toward the examination was generally cooperative; he smiled a bit but was quiet and unenthusiastic.

Most of the people who tested or interviewed J noticed his great initial reticence which eventually gave way to a quiet, restrained friendliness. The Story Telling Task (included) vividly illustrates this point. In the first story, he was almost inarticulate, but in each successive story, he produced a little more. One examiner wrote, "He appears shy and reluctant to speak. Nevertheless, he seemed to enjoy the attention he was getting. At times there was a distracted quality in his responses. He responded slowly, almost as if he were not hearing the questions." Also, one of the social workers noted that the other children in his family were much more animated. His mother says that J "can often be in the house and no one knows about it." With the family during mealtime, he is usually unobtrusive while his sisters do most of the talking.

J's teacher rated his behavior at about the average level for successful students. He is seen as a student who is comfortable in the classroom, tends to business most of the time, does a better than average, but not outstanding, job. But his teacher does feel that he does not apply himself sufficiently.

The liveliest description of the boy is one he gives himself. He says he has a variety of friends with whom he plays football in the park on weekends. He wishes he could be like Jim Brown, the football player. After school he plays with his electric football game and in the evening he watches many television programs. He gives a description of his family life that coincides with the conventional picture of a devoted father and happy mother, with J himself as a socially successful athlete-scholar. He says that the most fun is when they have company and all dance. He enjoys watching his mother dance, alone or with his father. He says that every summer his father takes them on trips in his car. His father eats his supper before the children do and mother eats afterwards. Both parents "fuss" at him when he gets poor marks.

This is very different from Mrs. J's account. She says that J's father is not living in the home but does take an interest in the boy. She reported that all of her eight children were born out of wedlock. The two oldest children no longer live at home but, in addition to J, there are two older sons and three younger daughters at home. The family recently moved into an old, but fairly well kept tenement. Their own seven-room, four-bedroom apartment is neat and clean. One room, just outside the immaculate kitchen, is the locus of family activity and is somewhat congested, with an assortment of unattractive furniture. Here they eat, study, watch television and someone can sleep on the studio couch. The boys sleep in the rear of the apartment, the girls share two rooms and Mrs.

J has her own room. Mrs. J does part-time domestic work while the children are in school. The family receives Welfare assistance and is careful with money.

Mrs. J, a pleasant, conversational woman of average height, is slightly obese and has lovely, expressive hazel eyes. She was born in the South where she grew up on a farm. Her family was relatively comfortable. She was a quiet child and kept to herself; her biggest thrill was to go to town on Saturdays.

She finished seventh grade and then, at 13, much to her regret, she quit school. When she was 21, she came to New York City to visit a sister, knowing that once she left home, she would never return to the "body-breaking" work in the fields. As a young woman, she was engaged to be married but the man died and "life kind of went hay-wire" and she "kind of gave up". J has never seen his grandparents who are still in the South. Mrs. J has relatives in New York but spends most of her time with her children and also belongs to the PTA and to the block association.

Mrs. J was 31 years old when J was born, the fifth of her eight children. Pregnancy, birth, infancy, development, and health of mother and child were normal. Mrs. J gives her impressions of the boy: he was a good baby who seldom cried. He kept quietly to himself, had little association with his sibs and has had few friends; he doesn't seem to get along well with others when the relationship gets "too involved." He was always a "bright little child," walked before he was one year, and was toilet trained by the age of two years. He was not disturbed by his sister's birth when he was a year old. His older sister fed him and then he learned to feed himself. Mrs. J says this sister "spoiled" him but there is not much evidence for this since she also says that J was always very "independent" and self-sufficient. He rarely asked for anything; played carefully with his toys and learned early that they were hard to come by. He went to the store alone when he was five. Apparently, Mrs. J encouraged this kind of behavior because she had little time to spend with any of her children. J learned a lot just by keeping his eyes and ears wide open. Mrs. J reports that J could read before he entered school and was always interested in books. He rarely got into any difficulty or required punishment.

J has always been uncommunicative, and seldom states his opinions. His rare punishments are mostly for refusing to answer questions. Mrs. J believes that she knows what he is thinking because he is a quiet "loner" much as she used to be, but sometimes she feels baffled, irritated and worried by his silence and withdrawal. He sulks when he is punished but never "talks back." She would not allow it. She says that she tries to encourage him to talk more but one interviewer observed a sample of this "encouragement" and it seemed that Mrs. J was only giving him her words to repeat and he balked.

Mrs. J feels quite sure of herself as a mother of young children, having had lots of experience from the time she was 8 years old, taking care of her aunts' and cousins' babies. She does not believe in "spoiling" children. She claims that hers are all treated equally, kept under firm control and are all polite and well disciplined. She says they are taught to be independent and competent, to carry their share of the household responsibilities, to be helpful, to stay close to home and to enjoy their home.

Mrs. J has mixed feelings about New York. On the one hand, there are good schools and teachers and more opportunities than in the South. "In New York you can't fail if you keep on trying;" everyone can finish school, and she still hopes that her children can "have a life where they are free to go and do whatever anyone can do, regardless of color, and get the best job they are really qualified for." But on the other hand, it is hard to raise children in New York. There is little parental influence possible. She cannot choose the childrens' friends and the neighborhood is hazardous. One of her sons had a paper route but was so often robbed of his earnings that he finally gave it up out of fear. And with sex education, "parents are the last ones the kids ask. Everything up here comes from the streets. I don't know what I would tell them if they did ask except to be careful." With resignation, Mrs. J says, "All I do is give them the best teaching . . . prayers and luck . . . I hope they make it." She is not happy about social conditions - there is so much uproar and hatred; the Civil Rights groups "have a good idea but it doesn't seem as if things will ever get settled."

Her children were all bright when they were little - the oldest boy was reading by the age of four. But when they get into the higher grades, she feels helpless to prevail against the influences of the juvenile delinquents, the addicts, and the lure of 'the easy dollar." Then these "bright" children somehow do not become exceptional students. Her oldest boy dropped out of school. The two next oldest boys are doing pretty fair in school but are not as good in reading as J.

As far as J's education is concerned, she would like for him to go to college and become a teacher. His oldest brother would help him financially. She hopes J will finish school, even if he is offered a job. Her wish is one thing but as for her expectations, "he may complete a vocational high, with a little push." She is worried now because his marks have not been as good as they had been. She tries to encourage him to study without pressuring him.

On a typical day, according to Mrs. J's report, J gets up at 7:00 A.M., dresses, eats and is off to school. He has a certificate for good attendance. After school he comes home and does his homework on his own. He reads, plays by himself, with the dog, or occasionally with a friend if one should drop by. Television occupies about an hour. He likes cartoons best.

On three afternoons a week he goes to the after-school study program for reading. In addition to Sunday school, he goes to church one afternoon a week for religious instruction. Occasionally, he goes to the recreation center. He helps take care of the younger children, does a little housecleaning, some cooking but needs reminding to take the garbage downstairs. Before going out of the house, J tells his mother his destination. He must be in by 9:00 P.M. Sometimes on weekends, the family goes on a bus outing.

J himself says in one interview that in school he likes gym, and swimming in the hot weather. What he doesn't like is that the work goes on and on even after he and his hand are too tired. On the whole, though, his expressed attitudes about school were close to the average for his group.

He says he gets good marks in school and knows that it is important to get an education if you want a job. He likes to read library books about famous people. He would like to go to college but doesn't know if he will. He wants to be a "store man" when he grows up.

The intelligence test scores place J within the average range of intellectual functioning on verbal tasks but somewhat lower on performance tasks. It was noted that he was reading on grade level, that his arithmetic was more than two years above grade level. Yet his teacher has the impression that he is an under-producer. An inspection of all of his psychological test productions yields the same impression. They are very sparse and non-committal and were given slowly, often after much encouragement from the examiner. He is less productive than the average poor achiever. For example, he gave only 10 responses to the Rorschach. Most of his Drawing Completion pictures (included) also have a sparse quality although several show careful detail and clever use of the stimulus. It will be recalled that his initial stories were also very brief.

In general, J's test productions are of relatively good quality; they are realistic and down to earth though sometimes lacking in imaginativeness. On a Test of Caution, J scored far above average. His constricted style has its positive and negative aspects and probably serves various psychological needs.

There is evidence in the psychological tests that J feels small and dependent and yearns to be cuddled as an infant. His Figure Drawing (included) is almost pathetically fragile and little. His Rorschach protocol shows sensitivity and sensuousness and an almost poignant hunger for tenderness plus indications of fear of the masculine role. The protection and tenderness he needs may not be forthcoming in the form that he requires. Though his mother is interested and intelligent and seems confident of her ability to raise children, she may be over-involved with J and there is no counterbalancing male figure. As an instance of the mother's dominance, J when interviewed alone said he wanted to be a "store man" but when mother and child were present at another interview, the mother said "You want to be a teacher, don't you?" and J did not answer. Nevertheless, Mrs. J turned to the interviewer and said, "He wants to be a teacher."

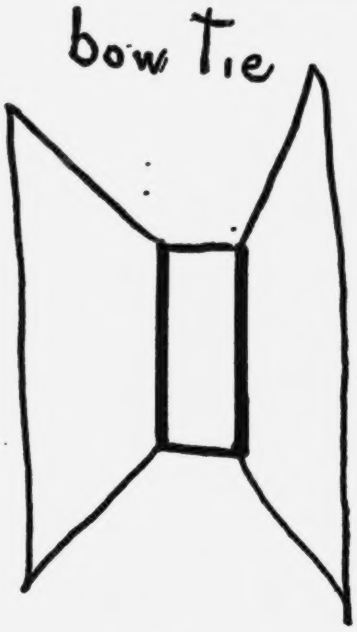
J seems to have been discouraged from expressing his own ideas and feelings and so seeks self-sufficiency through remaining almost isolated and avoiding the give-and-take required in interpersonal relationships. He denies himself even the assistance that others might be willing to give him and he keeps his horizons narrowed to what he feels he can cope with by himself. Because he is on his own, and rather timid, he is very careful not to bite off more than he can chew. Thus he keeps the situation and his feelings under fairly good control. The intellectual activities he favors are more conventional and rote than integrative. For example, he does better with spelling and reading than with social studies and science.

One is left with the impression that J is a rather sad, depressed generally passive youngster, frequently too fearful, anxious and controlled to function freely. Very fortunately, he has been able to assuage in part his unsatisfied emotional needs by strengthening his academic skills and becoming a satisfactory student in the context of our present schools.

Case "J" Drawing Completion

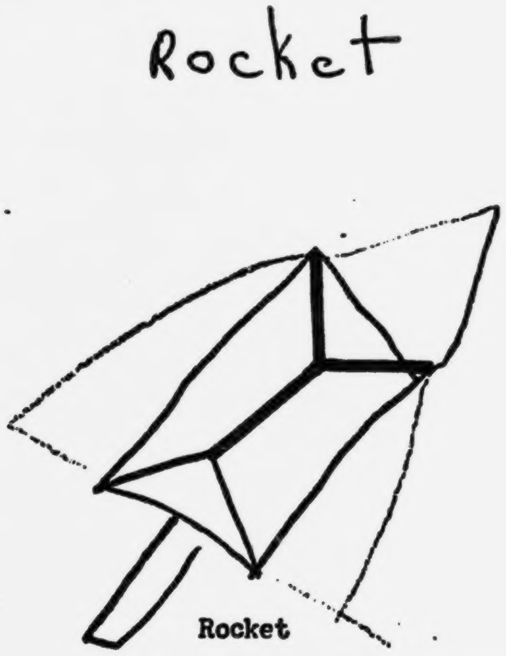
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.

1



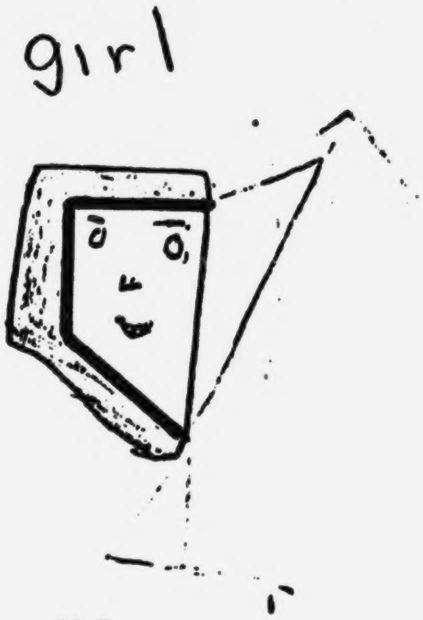
Bow tie

2



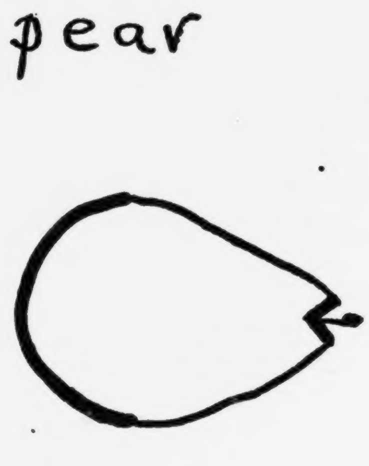
Rocket

3



Girl

4



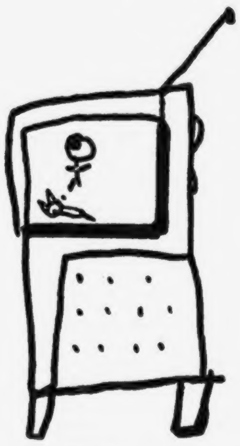
Pear

Case "J" Drawing Completion

J

5

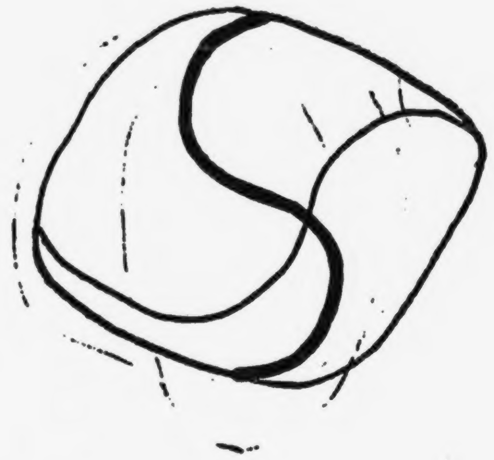
TV



TV

6

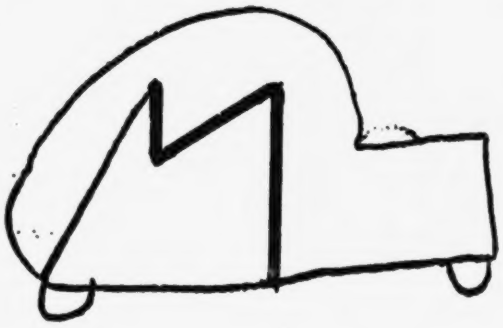
Double S



Double S

7

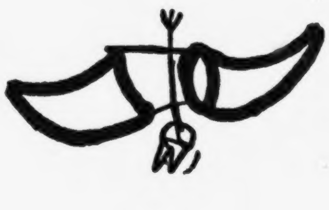
car



Car

8

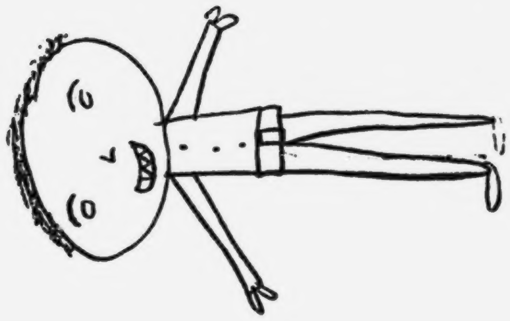
bat



Bat - head upside down

Case "J" Figure Drawing

He's in a gym runnung
around. He's 8 years old.



Case "J": Story Telling Task

(Stories As Told Before Questioning)

Picture 1 (250") He's readin' a book (long pause) an he's thinkin' of something (long pause) thinkin' about what are the teacher gonna ax him. And he thinkin' if he know the question or not.

Picture 2 (25") Three boys are lookin' at the new boy in school. They ax him, do he want to play ball. He said yes, they start playin'.

Picture 3 (14") The teacher is showing the boy how to do his math. Then the boy said he understood how to do it now. Then when they finished, they checked and he had them all right. Then the teacher say he understands well. Das all.

Picture 4 (8") The boy brung a instrument from school and he showed it to his mother and father. Then he went in the room and sat down and figure how to play the instrument. He picked up the stick and start rubbing it against the string but it wouldn't play. Then he called his father and his father came to him to see what he wanted. Then he axed his father to play the instrument for him. His father showed the boy how to play it and that's how the boy learned. Das all.

Case "K" - Low Achieving Boy

"K" was almost 11 years old when first seen in connection with our study of high and low achievers. A tall, thin, good-looking boy, he was achieving at middle third grade level in both reading and arithmetic although he was in the fifth grade.

K lives with his mother and father and two younger brothers (one older brother lives away from home and an older sister died) in a fairly new housing project. The four-room apartment they occupy is very neat and orderly and is adequately furnished, including a television set. They own a set of the Universal Encyclopedia. K does homework in his own room at his own desk.

K was seen by the pediatrician as a quiet, nervous boy who had hyperactive reflexes, but otherwise appeared to be in good health. His posture, vitality, nutrition and neurological status were rated as good. His nails were slightly bitten. When he was a young child, he suffered from asthma and had frequent colds but these difficulties are not apparent at present.

K expressed great reservations about his academic achievement and ability. He said he studies but he doesn't know the work because he "can't memorize too good". Yet he would like to do better and this need shows up in a higher than average score for low achieving boys on Achievement Need. On the other hand, his score on the Achievement Attitudes Test was below the average indicating that he prefers play, for example, to more academic activities, or immediate satisfactions to future pleasures.

K likes to read the dictionary and to study words after school. He has the best vocabulary in his class and on the Vocabulary subtest of the WISC, he obtained his highest score (13), one that was higher thanthe average even for the high achieving boys. His scores on the Information and Comprehension tests were also high but he did relatively poorly on all the performance subtests, especially on Block Design (4). This pattern was an extreme instance of higher verbal than performance scores typical of the children in our study. K obtained a verbal IQ of 101 and a performance IQ of 79. Although his Vocabulary Score was high, his definitions were not particularly well phrased nor concise. In another verbal situation, his scores for language complexity and sentence depth were below average for the low achieving boys. It should be mentioned here that he used more than twice as many words in telling stories than the average for any of the subgroups (732 words compared to an average of a little over 300 words). Thus we see a boy who is interested in words, who knows their meanings, can produce them easily but who is not as precise or careful, or structured as he might be. He does not seem to be able to put to use the basic knowledge he possesses.

Although K did very poorly on Block Design, a performance task requiring abstract ability, he did very well in the Object Sorting task where he showed good conceptual reasoning, giving 60% superordinate reasons for his groupings, again achieving a score that was even better than the average for the high achieving boys. He also did well in unstructured tasks such as the Drawing Completion (included) where his productions gave him high scores in originality, complexity, flexibility, and fit to stimulus. Not one of his drawings was scored as a "popular" response. In keeping with the elaboration of his Drawing Completions, he was the only child in the entire sample who went beyond the composition instructions and illustrated his narrative on "The Way I Am in School" (included). His extended stories to the four pictures in the Story Telling Task (one included) also show much fantasy, ideation, and good vocabulary. There was the unusual tendency to assign names to people and animals, and to give dates, perhaps indicating a fuzzy differentiation between fantasy and reality. To the Rorschach, K was initially restrained and controlled, giving only 11 responses, but during the inquiry, he expounded upon his responses lengthily, projecting ideas that sometimes showed serious distortion of reality. There is much oral aggression accompanied by a need for nurturance and protection.

One gets the impression of a child who has good ability, both in convergent and divergent tasks, can be original and creative, but is too lacking in control and overwhelmed by anxiety to put these capacities to use.

K's school history confirms the picture of difficulty. He entered kindergarten at the usual age and liked school from the first day. He was absent over 30 days that year but otherwise everything was satisfactory except for his social behavior. In kindergarten and first grade the teachers' comments were that he did not get along well with the other children, he did not respond to group controls, he did not pay attention nor participate in social activities and that his poor self-control showed up in frequent outbursts. K repeated first grade but the second year saw considerable improvement although he was occasionally disobedient and evaded responsibility. The teacher reported that it was difficult for this "nervous" child to sit still and do schoolwork. Second and third grade records had no negative comments on behavior but in fourth grade his behavior was again noted as a problem. However, his fifth grade teacher felt, too, that K's behavior showed improvement.

The one low score K gave himself on the Self-Appraisal Scale was for being "nervous";the highest scores were for being neat, smart in school, very good in art, full of fun, full of questions and going to do well. For most of the items, he felt neither positively nor negatively about himself.

Thus, throughout his school life, K has had many ups and downs; mostly, the downs predominate, particularly in the area of social behavior. And though K thinks he is smart and going to do well and feels he has other good qualities, his actual accomplishments are inadequate even for his school. His reading comprehension level at beginning of seventh grade was reported as 6.1, still one year below grade level, though somewhat less retarded now than he was in the fifth grade. His interest in words seems to have continued since his Word Knowledge Score was 8.5 at beginning of seventh grade.

When K writes on the topic, "The Way I Am in School" (included), he does not even mention academics, he is so preoccupied with the interpersonal pulls. For example (given as written): "I am nice to others when others are nice to me, but sometimes I get into fight and sometimes they pick on me. But I do not that because I no that my mother and my father cares for me." And to get this "caring" maybe he puts himself in the position that he attributes to his Figure Drawing (included). It is a clown on a trapeze who has to leap through a hoop of fire. About the picture, K says "He just looks happy but inside he's sorter confused . . . and he just afraid what might happen . . . . that the fire might catch on his pants or something ..... it might burn his hand .... yeah he have to go through with it cause that's his reputation."

How do the clinical psychologists describe a boy who draws such a picture - really a picture of himself? He was viewed as an anxious, unhappy, fantasy-ridden child, not always oriented to reality, showing much associative and imprecise thinking. His self-perception is severely damaged. He shows considerable concern about achievement, but has difficulty rising above his hostile-aggressive preoccupations. One observer concluded that "he functions on the level of his anxiety but yet, he functions." Even the pediatrician's assistant took pains to note that K came in to the examination with balled up fists, dragging his feet, and seemed angry and defensive. But when he was allowed to display his strength in the hand grip test, and was listened to, he warmed up.

In an interview with one of the examining psychologists, K told a great deal about himself as a person and as a student. He comes across as a young man of strong feelings who likes activity and who knows the appropriate answers and gives them in a mixture of colloqualisms and technical terminology. He loves trains; his ambition right now is to be a subway train engineer. But when he looks further into the future and considers finishing school and going on to college, he admits he would like to do something important and be a rocket technician. When asked whom he knows who went to college he replied, "All the great men in the nationand a few people on the block." He says his brother used to go to college. Actually, K isn't sure that he will reach his goal because he doesn't know all his math. He isn't doing so well in social studies or reading either. However, he reported that he read on his report card that he is an excellent speller.

He said that his mother is real happy when he gets good marks and when they are bad, she takes away "all his pleasures," cuts his allowance or gives him a "whoopin." His father doesn't do anything about his marks. It appears that K feels he needs to make his mother proud of him because if he does not, she will punish him or maybe even abandon him entirely.

Mrs. K dominates the household. She does not work outside the home. She makes the decisions for the family, regulates the activities and establishes the standards for behavior, including specific rules about playtime and bedtime. She insists that the children have supper in silence because "the table is the place to eat."

Mrs. K was born in the deep South. As a child she was shunted between a neighbor, her mother from whom she became estranged, and her maternal grandmother who really raised her. When she was four years old, she was burned severely while at play and was bed-ridden for almost three years. (Recall the fire theme in K's Figure Drawing.) She believes this was the cause of her chronic nervousness. Mrs. K feels that it was her mother's unloving attitude that led her to "go astray" and to become involved in many heterosexual relations. When she was 18 and had completed some high school, Mrs. K left home and never returned until her grandmother's death recently, which was terribly upsetting to her. Mrs. K had three children previous to her relationship with Mr. K. The two oldest died and the third is now grown and lives elsewhere. She said that the man she really loved died before they could marry. Mr. and Mrs. K have had four children; the oldest, a girl, died when she was 15 of an overdose of Mr. K's "nerve" pills. It was unclear how and why this happened.

The K's were married primarily to enable them to move into the project. It is difficult to guess what gives this relationship its stability; it does not appear to provide much emotional satisfaction for the partners nor their offspring.

Mrs. K seems to know very little about her husband. He was born in the South. She never asked him about his education. He may have completed fifth grade. He works as a shipping clerk. He has had "several breakdowns" and has been under psychiatric care at the V.A. hospital. He is short-tempered and cannot tolerate children. Mrs. K says that her husband has never spent any time with the children and, in fact, when they enter the room, he leaves. He eats alone and rarely does anything with the family.

A few years ago Mrs. K had a major operation and following that, was a patient at a mental hygiene clinic for one year. She was discharged as improved. Her upset was considered to be largely a reaction to her husband's pathology. Mrs. K was 28 when K was born. Pregnancy and birth were normal and the baby seldom cried except about eating. He rejected certain foods and then became very angry. He started to talk and was toilet trained at 14 months. Walking did not start until 15 months because he was very small and "had trouble balancing himself". When he was little, he stayed by himself in his room looking at books and seldom played with his sibs. He sat quietly, tense, but not complaining except when he was frustrated and then he had temper tantrums.

He showed little curiosity or interest in exploring things "as if he already had his own ideas". Mrs. K said she did not pay any particular attention to him, just treated him the same as the other children. When he was about four she would read to him if he asked her to. He first began to play with other children when he was about 5; he wanted their toys and cried for them when they were taken away. He was restless in the house, always pulling at his clothes, "nervous" like his parents. He didn't get along well with his older sister and was jealous when his mother spent time with his younger brother.

K always followed his mother's instructions and wishes and almost seemed to "learn by himself how to be neat and clean." Mrs. K says he became the best reader in the family and always spoke better than his mother who "learns from him." It was noted that the quality of her own speech was good.

Although Mrs. K deplores K's explosive temper and the way he throws things and gets angry when times are difficult for him, she thinks that he is basically easy to manage. He is not easily influenced by his playmates and in fact hasn't many friends nor has ever had long-lasting friendships even though children seem to like him and they are allowed to visit his home. He has one good friend now who shares his strong interest in the Cadet Corps. Mrs. K is proud when everyone says that K is a polite, "nice kid." She believes that the Cadets have helped to control and discipline him and that his present teacher has helped him a great deal, also.

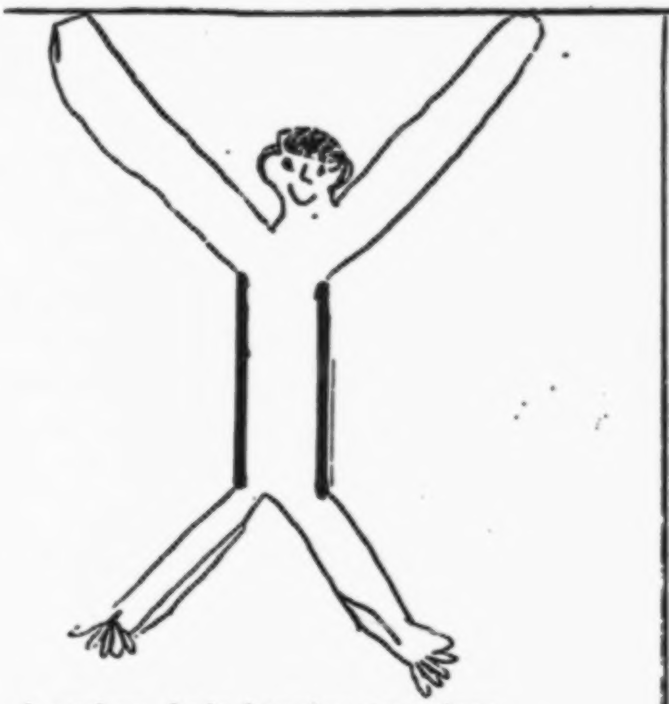
In contrast to Mrs. K's account of her husband's lack of involvement with the children, K says that his father sometimes helps him with his trains and talks to him about getting him a bike, and also wakes him up every morning at 7, just when he's "getting a good dream." Whether or not these statements about his father are wish-inspired, it seems that K has found older males whom he regards with warm respect. One is his older brother who K says finished high school and won a scholarship which he did not accept; another is the Cadet Corps leader with whom he shares mutual admiration. Mrs. K's most effective form of discipline is to threaten to expose K to this leader; still another is his teacher who is reported by Mrs. K and by the examining psychologists to be deeply interested in K. He, in turn, says that a good teacher can be a great help, that he prefers a man and a strict one. He likes his present teacher who gives him books about trains that he likes to read.

In looking through K's record, one comes away with the impression that the youngster has the potential for school success but that he needs to learn better ways of coping with frustration and to strive toward more short-term goals in order to gain academically and in self-esteem. He may, with the assistance of interested teachers, be learning better modes of self-control and self-expression.

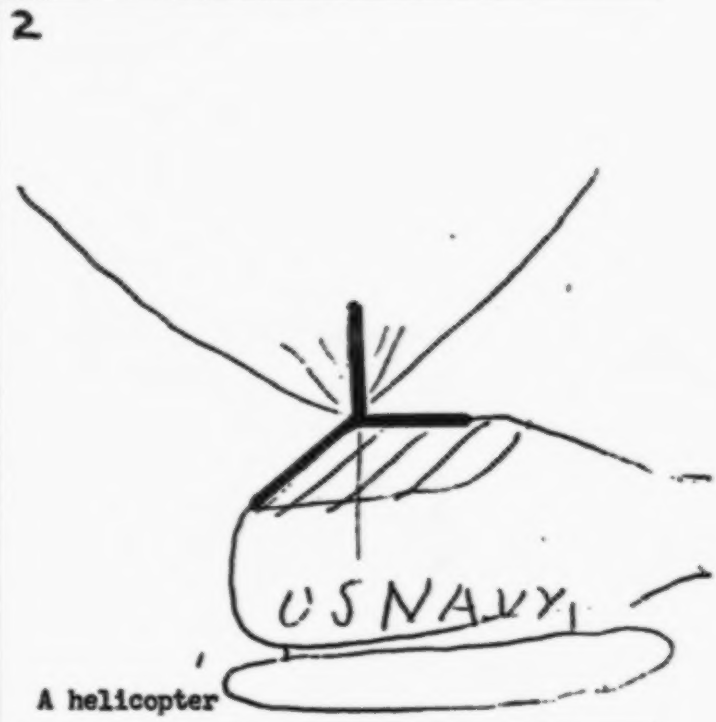
Perhaps, K can be helped to replace his anger and anxiety with greater self-confidence and the academic competence for which he has the intellectual ability and creative capacity.

Case "K" Drawing Completion

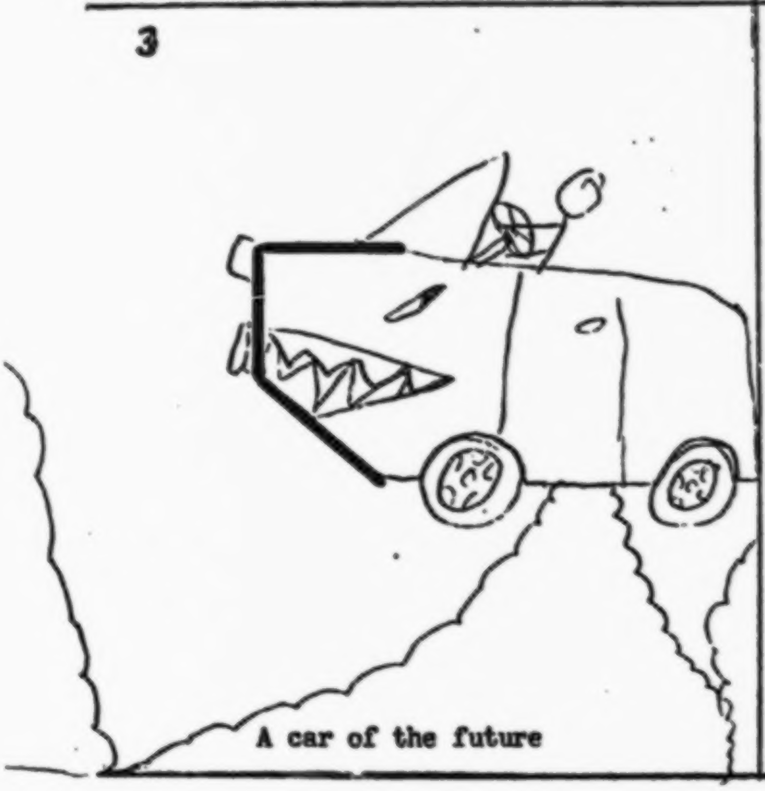
Directions: The drawings on these two pages are not finished. Finish them any way you want to. There is no right or wrong way to do it. You may use as many lines as you like.



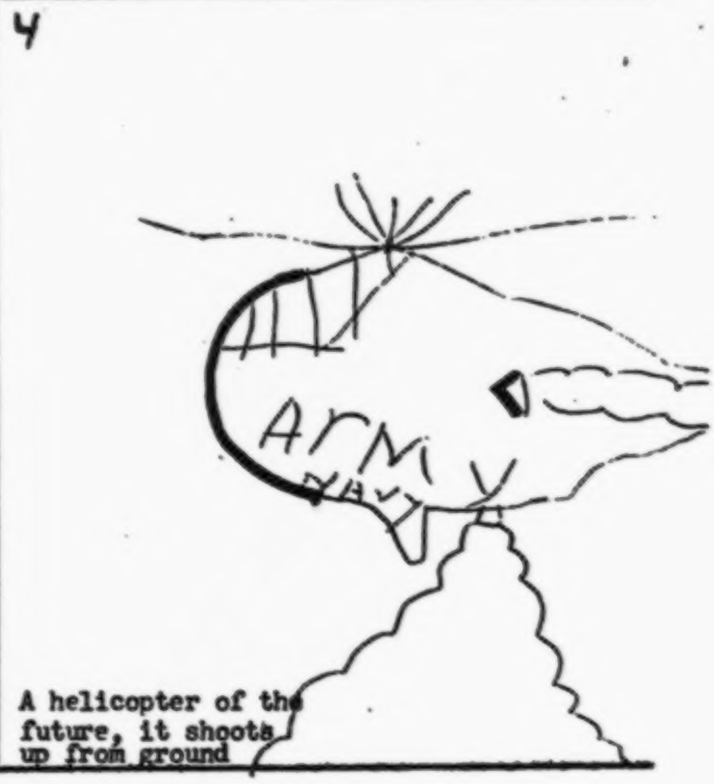
A monkey, he's hanging on a tree



A helicopter



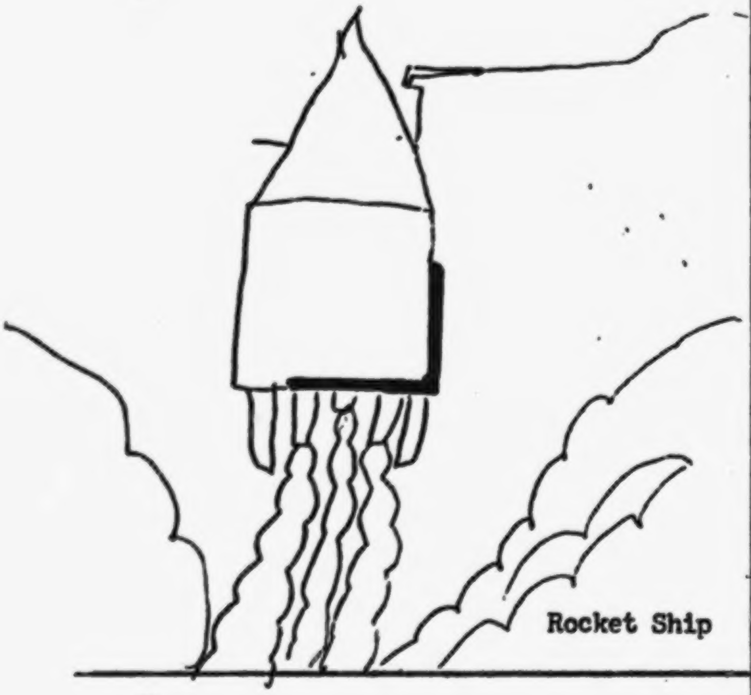
A car of the future



A helicopter of the future, it shoots up from ground

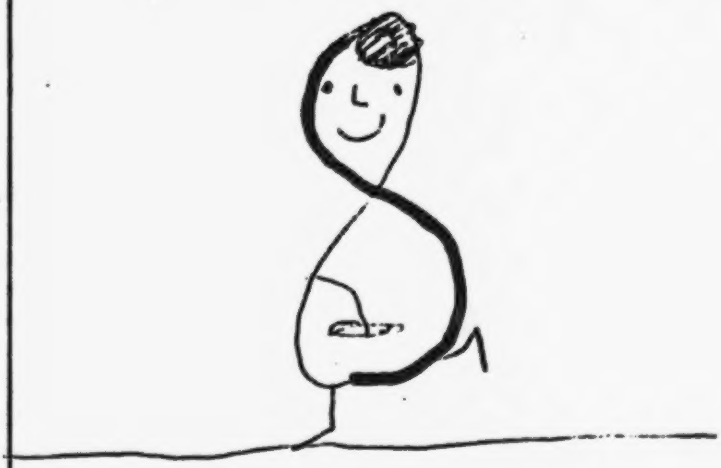
Case "K" Drawing Completion

5



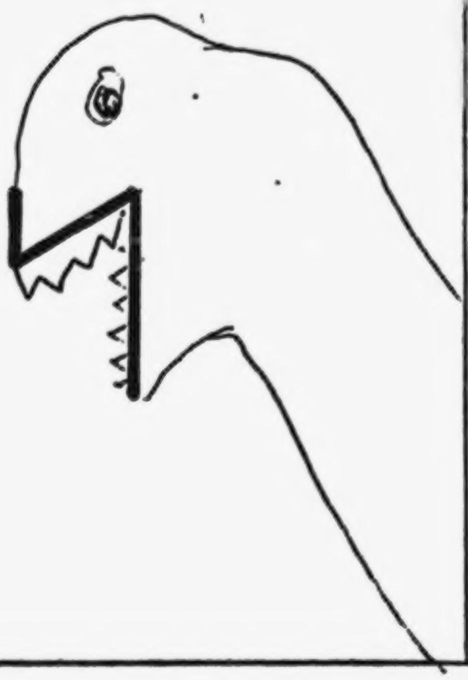
Rocket Ship

6



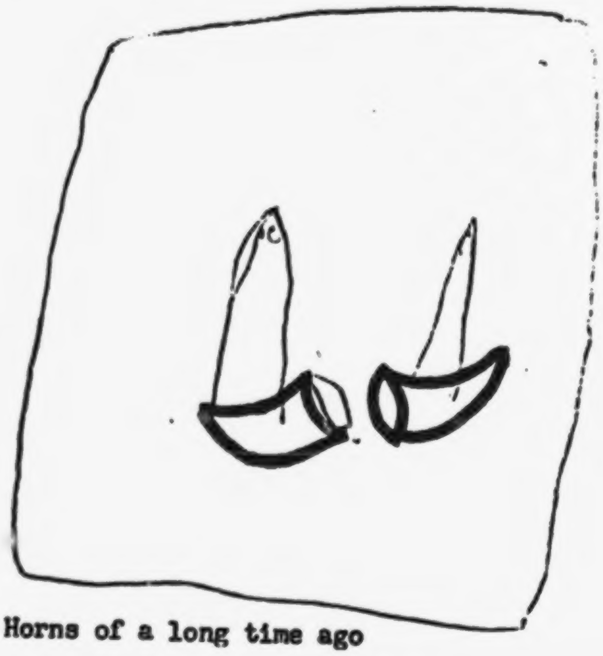
Ordinary little boy

7



Dinosaur

8



Horns of a long time ago

Case "E"

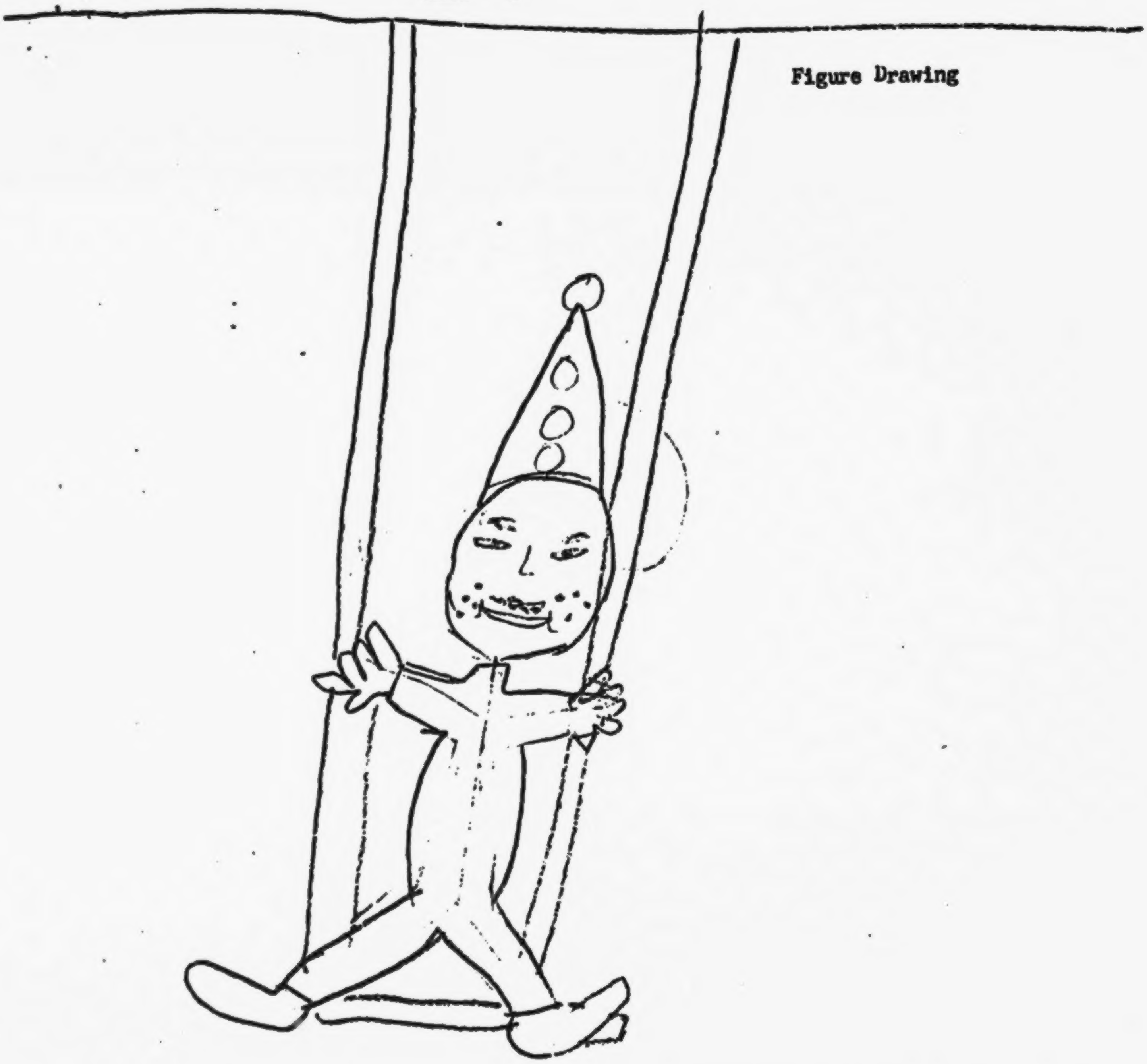
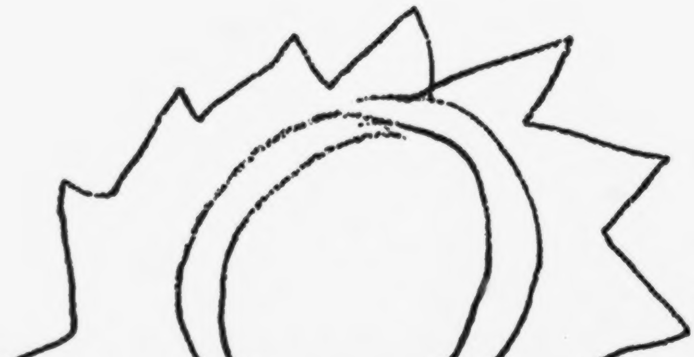


Figure Drawing

He's on a trapeze. He's gonna leap through that loop of fire.

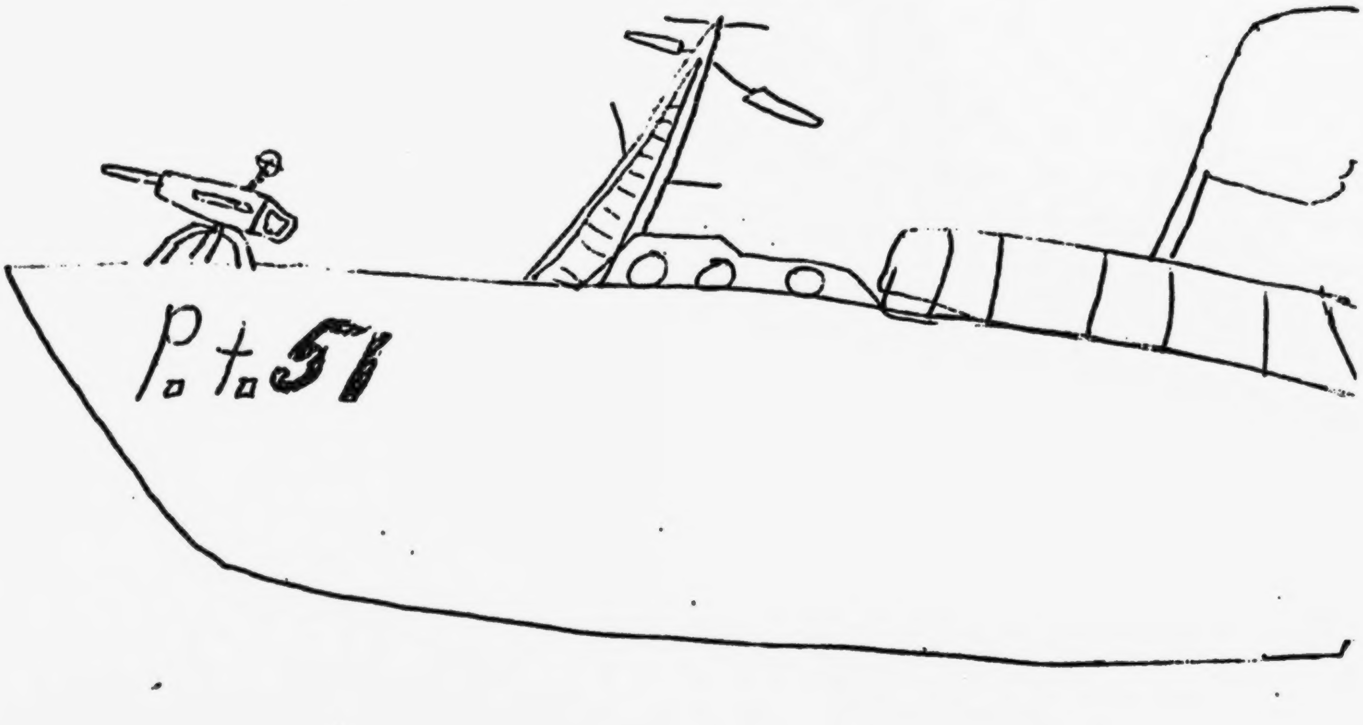


Case "K"

The Way I Am in School

I am nice to others when others ar nice to me
but sometimes I get into fight and sometimes they pick on
me when I am in school. But I do not that becuce
I no that my mother and my father cares for me.
And that the storie. about the way I am in school.

and this is what I want to be when
I grow up. in the father.



Case "K": Story Telling Task

(First Story As Told, Before Questioning)

Picture 1 (22") Say it? Once upon a time there was a boy named Jimmy. He was bored when he read a book. So one night, the teacher told him to read the book for homework and memorize it. But he was very bored, so he didn't read it. So then that morning when he came to school, everyone memorized the book but him. So, he, he, so he was punished and expelled from school. So when he went home that night - I mean - yeah that night, the teacher had called his house. So when his father came home that night he got a spanking. He had a dog named Timothy. So that night before dinner he and Timothy ran away. So when Timothy - I mean when Jimmy's mother called for him to come and eat, he was gone from his room. He went to a lake where a big palm tree was and he caught fish. And that night he slept up in the palm tree. So that night his mother borrowed his friend Tommy's dog - Jimmy's friend Tommy's dog. So they walk down the road and on a big tree where the lake stood, they heard a sort of a snoring sound. Then Jimmy's father shut off his flashlight. They found Jimmy up in a tree. So when they picked him up he was sound asleep and when he woke up he said there's no place like home. And that's the end.

Comments on Cases G through K

Not only were these children similar in certain surface background items used in selecting them, but further and deeper similarities were uncovered in examining their case materials.

We see that all four families subscribe to the American concept that one can climb the social-economic ladder by making the appropriate effort and that education gives a great upward boost. Notable, however, in this group was the large gap between present status and ultimate goal and even between present status and a lower expected goal. These children all speak of wanting to go to college but an inspection of their records suggests that they will need support and encouragement to finish the high school course for which some of the mothers would be willing to settle.

The four mothers presented themselves as disciplinarians; they dealt summarily with behavior that they disapproved of, spending little time in discussion. The mothers discouraged neighborhood play and restricted the child's activities outside the home to supervised settings. One gets the impression that the mothers are convinced that the child will be best prepared for life if he does not learn "bad" habits from peers and is quite completely subservient to adult authority. People outside the home, particularly teachers, it seems, also approve of this kind of passive, submissive attitude.

In all four families, the mother seemed to be the stronger, more dominant person; the father in Case J is not living at home although he takes an interest in the boy; G's father is helpful in the family but "spoils" her; H's father helps her with her homework and appears kindly; K's father is reported by the mother to be intolerant of the children although K himself sees his father as companionable.

Except for K's family where both mother and father are "nervous" and have histories of mental breakdowns, the families are cohesive and fairly stable. The children have lived in the same neighborhood continuously and attended school there. All the homes were considered neat, clean, and well cared for.

For the most part, the children themselves are timid, fearful, compliant, and dependent, seeking, but often not getting, the approval of adults, whom they basically do not trust very deeply. Their sense of self-adequacy has been too damaged to permit independent judgment, self-reliance or self-assertion with perhaps one exception, Case K, who is, however, too deeply anxious and too little channeled by reality to be truly competent. In fact all the children seemed anxious, depressed, and sad to a considerable degree.

Differences in the children that may relate to differences in their achievement fall chiefly in two areas: ability to exert control both in the cognitive and emotional domains and early health problems, linked to poor school attendance especially in the primary grades. G, the high achieving girl is extremely controlled, accurate, overcautious, limits herself in her productions to the simple and obvious; her health is good. H, the low achieving girl, does not have high standards of accuracy, is not cautious, and suffered, especially in the early school years, from asthma which resulted in excessive absences; in fact, her whole family seems beset by health difficulties.

Similarly with the boys, J, the high achieving boy, is careful, accurate, and does not expose himself to risk; his teacher feels that he is an "under-producer." He has an exceptionally good attendance record and his health is good. K, the creative, imaginative but low achiever is restless, careless and given to fantasy. He, too, suffered from asthma when he was in the early grades and was absent frequently.

Thus, emerges a picture of children who are not truly either successful or unsuccessful students. Achievement seems contingent upon sacrificing spontaneity and the daring of divergent thinking. The low achievers, especially the child with creative potential, might become more competent with greater personal maturity and if additional adult support is forthcoming, perhaps from teachers. As for the two high achievers, who were just at grade level in the fifth year, one cannot feel confident that they will continue to perform satisfactorily unless they receive considerable intellectual and personality nourishment.